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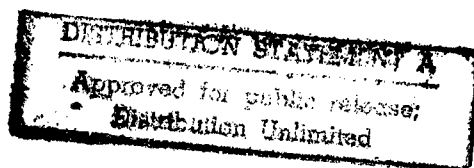
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Soviet Union

Military Affairs

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Soviet Union

Military Affairs

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Creation Of Cossack Formations Proposed

90UM0118A Moscow SOVETSKIY VOIN in Russian
No 17, Sep 89 (Signed to press 23 Aug 89) p 46

[Letter from A. Odintsov: "Revive The Cossacks"]

[Text] Today many historical facts are being reconsidered from new, sometimes opposite positions. In particular, the view of collectivization has changed, and the truth has been told about "dekulakization." This state of affairs has yet to fully extend to the Cossacks, but the fate of the Cossacks concerns me. I don't know if I myself could be called a true Cossack, for I live in Saratov, although I was born in Krasnodar Kray, and my father and grandfather were Cossacks.

Since the 14th century, the Cossacks staunchly defended the country from enemies and guarded its frontiers, but today our people have lost this entire group, along with its traditions and customs, and our language has lost the very word "Cossack."

I think it wouldn't be a bad thing to return to the ancient Russian military traditions and to revive the Cossacks. To do so, it is necessary to reestablish the Kubanskaya and Donskaya autonomous oblasts that were created by the Soviet government in 1918 and abolished that same year. Let me point out that in the city of Engels, not far from Saratov, the question has been raised of reestablishing the German autonomous republic that was abolished in 1941.

In the opinion of myself and other like-minded people, separate military units made up of Cossacks doing compulsory or extended military service could be set up within the territory of the Cossack autonomous oblasts (or stanitsy). Local residents would staff these Cossack units, and they would carry out the traditional task of defending the southern border regions, installations, and so forth. Under another possible option, local residents who enlist in Cossack units could serve not on a continuous basis but under a military assembly system. For several months of the year they would practice horseback riding, learn how to use sabers, and master the dismounted Cossack formation. By tradition, the Don Cossacks would wear blue caps with red bands and blue breeches with red stripes, while Kuban Cossacks would wear Circassian coats, fur caps, and so on.

Needless to say, such troops would be of no significance in a modern war. But the British Royal Guard also serves more as a keeper of traditions than as a military unit. In the same way, the traditions, customs, and very appearance of the Russian Cossack could be revived in our country.

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Call For Creation Of 'Professional' Army

90UM0118B Moscow SOVETSKIY VOIN in Russian
No. 18, Sep 89 (Signed to press 11 Sep 89) p 46

[Letter from Maj V. Shevchenko of Tula: "And A Soldier As a Secondary Occupation"]

[Text] It seems to me that the frequent discussion of a professional army in the pages of the press divert us from genuine army problems. One such problem is the enormous amount of time and effort that soldiers spend doing extraneous work that has nothing to do with the army per se. For example, what is it that army rear service personnel are recounting with delight in the press? The fact that the army is self-sufficient in meat. But this is not necessarily a good thing! It means that tens of thousands of young people are fulfilling their "sacred duty" by fattening pigs. Every unit has a subsidiary farming operation that is run by soldiers who are supposed to be serving as radiotelegraph operators, drivers and mechanics, operators, and gun crew members... This kind of service only discredits the very notion of "sacred duty."

Haven't we relied long enough on dilettantes who are inspired by patriotic slogans alone? The country needs professionals. Professional soldiers, professional builders, professional pig farmers. Only then will we be able to feed the country, to provide it with housing, and to have a reliable defense. Every person must do the job he's supposed to do—only then will we eliminate the chronic manpower shortage and make the transition to truly qualitative parameters in all branches, including the defense branch.

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Soldiers' View Of Civil Unrest In Caucasus

90UM0118C Moscow SOVETSKIY VOIN in Russian
No 18, Sep 89 (Signed to press 11 Sep 89) pp 62-63

[Article by Lt Col V. Kuzmenko and Maj A. Ushar: "Details For SV: 'Ghosts' Versus Soldiers"]

[Text] A narrow side street in Kokand. Soldiers standing shoulder to shoulder. Their faces are blackened with dust. Their sweat-soaked uniforms have been faded by the relentless sun. Behind the soldiers' backs, there huddle together terrified mothers holding children in their arms. In their eyes are both fear and hope. Nearby are men perplexed by their helplessness and fatigue. "We don't trust anybody any more," they declare. "Only soldiers and Moscow."

Smirking and swinging their arms, different people in whose eyes is only hate stand before the soldiers, as if facing an unassailable wall. They reek of alcohol. The extremists—as people are referring to these common hooligans and criminals, following somebody's lead—are thirsting for blood. Vollies of stones, knives, picks, sharp dowels, and sharpening tools [zatochki]—the same

methods, the same scenario as in Armenia and Azerbaijan a few months ago. Shots ring out. Shields shatter; fortunately, bulletproof vests come to the rescue. Even so, the soldiers [zhivoi izgorodi] suffer casualties from time to time. There is blood, and faint moaning. Combat wounds in peacetime—this is the cost at which the fellows prove their commitment to their soldier's oath. Breaches in the chain are closed, and the soldiers, taking the brutal blows on themselves, draw together. And they stand, clenching their teeth, and using their own bodies to shield those who believe in them...

"...On June 24, in the village of Khorzha Aryk, Fergana Oblast, brutalized thugs on motorcycles knocked down people of non-Uzbek nationality, who became panic-stricken out of pain and terror." (From an operational report.)

Bones cracked, moaning was heard. They poured gasoline on the men, set them afire, and watched as they writhed in the flames. They beat the women, who then, covered with blood, were raped. Then they set the women afire. Savagery.

What were the lads thinking as they blocked the path of these sadists and murderers? About the fact that they hadn't lived very long, and that they wanted so much to avoid winding up with a knife in the chest. And about those "humanists" who have called for the elimination of these "special," "punitive," units, which supposedly prevent democracy from manifesting itself in full measure. It is frightful to think what would have happened had the soldiers not blocked the brutalized bandits' path.

"After the events in Tbilisi, we aren't even seen as people, even though anyone who has served in the Internal Forces will not have a bad word to say about them"—this is the view of Pvt Edik Khodayev. And here is what Junior Sgt Mikhail Nikolov wrote home: "The people to blame for that tragedy must be looked for not among us but among those who organized that gathering... Why are we now having to defend ourselves? Did I need all that?"

It was the people who were in need of a restoration of order.

"The conscience of the characters in that bloody event has proved to be absolutely unburdened by their complicity in the tragedy. What is this—moral infantilism? An inability to understand the horror of what happened as a result? A position of blindly executing orders? Or was it that the ghost of a new internal enemy was seen? I don't know. But I'm horrified." (Writer Boris Vasilyev, MOSKOVSKIYE NOVOSTI.)

At a meeting with servicemen who were involved in the Tbilisi events, the people's elect tried to convince the soldiers and officers of the criminal character of their mission. "The ghost of a new internal enemy was seen"—it's just a phrase, no more. But that enemy was not so phantomlike, for there were banners sporting slogans like "Down With the Communist Regime!",

"Russian Occupiers, Go Home," and "The USSR—Prison of Peoples." There were also weapons.

On April 10, the republic newspaper ZARYA VOSTOKA published a statement from the Georgian CP Central Committee, the Presidium of the republic Supreme Soviet, and the republic Council of Ministers. It said: "Recently, the organizers of rallies and demonstrations have increasingly often and openly called for disturbances and strikes, posing a threat to public safety. Open calls have been made for the government's resignation, and there are slogans of a clearly anti-Soviet, antistate, anticommunist, and antisocialist content that slander our state and social system... The organizers of rallies and demonstrations and the extremist leaders of informal associations have openly urged people to disobey the authorities and law-enforcement agencies, they have called for bloodshed and for the overthrow of the existing system."

It was by no means ghosts, as Comrade Vasilyev suggests, that tried to seize important installations and industrial enterprises. For several days, these "ghosts" literally attacked Georgian Television. The operation of all city public transport was paralyzed, and classes were interrupted at higher educational institutions and general-education schools. And it was doubtless people in the flesh who, on April 9 at 2 am, called lecturer M. Tetrokalashvili and advised him to be ready to receive casualties (and this in advance of a peaceful demonstration?). A number of other medical facilities in the city received similar calls.

There were, then, real forces that foresaw everything. And it was these forces, not ghosts, that persistently spread rumors in Tbilisi, and later in other cities, about special platoons of enormously tall youths with shaved heads and about "bloodthirsty misfits and pathological murderers."

For the sake of fairness, it would not be inappropriate to hear out those who are being accused of brutality and thoughtlessness in the wake of the Tbilisi events. Here is just some of the testimony of servicemen who have returned to service after medical treatment.

Senior Sgt O. V. Petrunin: "They threw bottles of a flammable mixture at us, and guys went up in flames right then and there."

"People shouted at me on the square: 'Fascist, why have you come here to kill people?' When I opened the barrier [shchit] to let a woman pass, I was hit with an exhaust pipe from a car. I fell down unconscious. In the hospital, there was a guy next to me with a fractured skull. He had just stepped onto the square... Sgt Polyakov got a concussion through his helmet—I don't even know what they threw at him... Another fellow was stabbed in the stomach. They dragged him into the crowd and stabbed him with knives..."

Pvt A. P. Gerasimchuk: "Some people who were trying to ram us with a beam were running not on the pavement but on people who were lying on the pavement."

The republic newspaper ZARYA VOSTOKA, April 14: "Day and night on the city's central thoroughfare, calls rang out for physical reprisals against communists, and anti-Russian and nationalist sentiment was fanned. Groups of well-trained and well-organized people made their way into enterprises, halting the work of hundreds and thousands of people.... They broke windows, desecrated monuments, dispatched strike detachments to other rayons of the republic, and everywhere sowed discord, dissension, and disturbances."

In Fergana and Kokand, and later in Sukhumi as well, events followed a similar scenario. The extremists' slogans were the same, as were their malice and hatred for the soldiers trying to restore order. This was immediately apparent to those who were sent to Tbilisi in April, to Fergana in May and June, and to Abkhazia in July. As they had done in Tbilisi, the soldiers tried to put a stop to the rampaging and to prevent bloodshed.

"The men under the command of Lt Col V. Agolets acted courageously. In protecting a group of citizens from extremists, the officer and eight servicemen sustained wounds, but they prevented defenseless people from being harmed." (From press reports.)

Such actions by the Internal Forces have won them the respect of honest people. Internal Forces subunits in Tbilisi acted in the same way. But then someone very much needed to sling mud on them. Incidentally, this is a tested method of the "ghosts"—to divert public attention from their own unseemly deeds.

Whom does this benefit? Without a doubt, it benefits those who call the forces of order occupiers, who have forgotten how these "occupiers" "occupied" Chernobyl three hours after the explosion. How they were on the scene in Spitak and Leninakan in just over two hours after the tragedy struck, rescuing the victims. These "occupiers" are always in the most difficult and most dangerous places, where bullets sometimes whiz through the air. They know our country's geography not from textbooks but from Stepanakert, Leninakan, Tbilisi, Fergana, Kokand, Sukhumi... And no matter what happens tomorrow, the first step toward mortal danger will be taken by these soldiers, for whom there is no higher duty than their duty to the people, to the motherland.

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Graft in Trainee Assignment Process Uncovered
90UM0095A Moscow KOMMUNIST
VOORUZHENNYKY SIL in Russian No 19, Oct 89
(Signed to Press 26 Sep 89) pp 45-51

[Article by Maj S. Lavrentyev, KOMMUNIST VOORUZHENNYKY SIL correspondent, under the rubric "Morals, Duty, Responsibility": "The Secrets of Household 'X'"]

[Text] Cases of bribery and special treatment are carefully concealed. Sooner or later, however, secrets come to light....

The news that Lt Col V. Gorskiy had been arrested and that a search had been made in his apartment and his office at headquarters spread through training unit "X" with a speed not exceeded by the travel of a warning signal. The reaction to the news was not the same everywhere. Some people were bewildered. He seemed to be a good person, an exemplary officer, and then this.... Others preferred to remain silent because they knew or had heard of the shady side of the service activities of the training unit's deputy chief of staff. Yet others.... The subsequent development of events showed that certain officials had valid cause for serious concern. The "Gorskiy case" involved them too. But we should not get ahead of ourselves. Here is the chronology of events.

During the preliminary investigation Gorskiy admitted that he had been accepting bribes and abusing his service position for a long time. He had assisted with the assignment of draftees from Leningrad to the training unit and sent its graduates to the "required" subunits. In short, for a certain compensation or by way of patronage, he had filled numerous "orders" pertaining to the stationing of draftees and servicemen.

According to Gorskiy's admission, for example, draftee G. Akhmedov expressed a desire to serve in a repair subunit and "backed up" his request with five bottles of French cognac and a bottle of vodka. Everything was arranged. Upon becoming a private, however, Akhmedov proved to be an undisciplined soldier, for which he was sent to a motorized rifle unit. Akhmedov's mother and father subsequently visited Gorskiy. Again bearing gifts, of course. The negligent soldier was returned to the repair subunit.

Here is another case. Draftee R. Varshanidze was included in a group to be sent to Chita. This turn of events suited neither the future soldier himself nor his father. The senior Varshanidze visited Gorskiy, gave him 150 rubles, and the matter was settled. Chita turned into the desired Leningrad Oblast.

Citizen B. Zimina requested that her son be transferred from the tankmen to the signalmen. For a bottle of cognac, a box of candy and a couple of books the mother's wishes were fulfilled.

It is difficult to refrain from commenting on the bribe-taker's omnivorous nature. Alcohol, fruit, books.... There is even the text of a note from Gorskiy to Capt V. Sirazitdinov, commander of the training company: "Respected one: Do not refuse whatever they bring you; it is from the heart. Help them with the leave in Leningrad. If necessary, go to the commander in my name...." There we have it! The kind of morality we have! It seems that a bribe "from the heart" is something else. And there is no reason to be inhibited.

The subsequent course of events linked to Gorskiy's note is very interesting. According to Sirazitdinov, who was promoted to major during the investigation, he went to the unit commander to see about granting the soldier a leave. The commander hesitated at first. Why a leave in the middle of the week? But he permitted it. Since Gorskiy requested it, then.... Pvt Tseretel's leave papers were filled out the following day.

This incident helps to shed some light on the question of how Gorskiy was able with extraordinary ease to carry out the requests of bribers, encountering practically no barriers on his lawbreaking path. We would add to this a fact brought out during the investigation: that Maj A. Solov'yev, as an example, had repeatedly heard Lt Col Gorskiy issue instructions to officers by telephone on personnel transfers. They were carried out, of course. Maj A. Ryzhko testified that it was primarily Gorskiy who handled the assignment of young replenishments. He was the one who decided where they would be sent. The officer also mentioned another fact. Gorskiy removed the names of two graduates of training subunits from the list of those recommended for transfer out of the unit. According to him, they were not suitable. Maj P. Veselyashkin confirmed this kind of behavior on the part of the accused.

I could go on citing such examples. I feel that there is no need for this, however. And the conclusion is obvious. Gorskiy did whatever he wanted through certain officials with respect to transferring personnel. But this gives rise to some questions. Did the situation suit everyone? Or was Gorskiy that all-powerful and influential?

During the preliminary investigation the accused did more than just admit cases of accepting bribes and abuse of his service position. He explained in his own way why he set out on such a path and traveled it without hindrance. In a letter to the district military procurator, he reported, among other things:

"During the 3 months I have spent in solitary confinement for the investigation, I have thought over and analyzed many things, particularly my last years in the training unit. I have fully acknowledged how completely deplorable were my actions, which wiped out everything I have achieved in the service and in life. The system of meetings of various kinds of commissions arriving to inspect the situation, a system which has been expanding in recent years, also touched me. A good decision by a commission "at any price" was also my motto. Meetings, lunches, dinners, leisure time activities and baths were arranged—and sometimes a "magic ticket" to continue their trip—and their every desire and order were carried out. Such tributes and feasts were arranged at the initiative of both staff officers in the training unit and the commission members themselves."

During the questioning Gorskiy testified that in addition to these treats, the officers on the commissions were given alcohol, cigarettes and food items purchased in

advance, including items purchased with money collected from the trainees. During the past 3 years he himself has put out around 50 bottles of vodka and cognac and spent approximately 700 rubles on the members of these commissions.

One could believe, of course, that this was slander on Gorskiy's part, an attempt to shift the blame and exonerate himself in some way. That is doubtful, however. The accused had to know, after all, the simple fact that defaming representatives of higher headquarters is a thankless activity. In any case it would have turned against him.

No, I believe that Gorskiy was precisely that "essential" man, who did indeed play a prominent role in the organization of receptions for the commissions and in the resolution of many other matters pertaining to the military assignments of servicemen both in response to telephone calls and at instructions "from higher up." He apparently suited the leadership too. How else can one explain this fact? The investigation showed that Gorskiy had previously misused his service position and committed infractions of the law. But the unit command element did not even actually monitor him. Why would this be necessary? After all, such officials as A. Tsapin, I. Shinger and A. Safonov themselves issued instructions to retain certain soldiers in the "necessary" subunits. The technical implementation of these instructions was handled by none other than Gorskiy. He had a reason for writing in an explanatory document submitted to the party organization investigating his personal case that he had sometimes acted with the full tacit agreement of senior chiefs.

And so, we can sum up certain results of the preliminary investigation. During the questioning for the final charge Gorskiy admitted in the presence of attorney A. Afanasyev that he had accepted money, alcohol, food items and books from citizens Naziraliyeva, Cheminava, Shakhmamyeva, Rubinchik, the Akhmedovs, Varshanidze and Zimina, and fulfilled their requests. This was confirmed by the testimony of witnesses.

Attorney's question:

—"You previously testified about incidents included in the charges. Do you affirm that testimony?"

Answer:

—"Yes, I do. I previously gave more detailed testimony during questioning and in personal interviews."

Attorney's question:

—"Did you understand that the money in the envelope given to you by your sons was from citizen Cheminava?"

Answer:

—"The envelope contained a letter, and I understood that the letter and the money were from her."

I deliberately cite certain parts of the questioning in such detail because it will subsequently become clear that they are very important.

Following the preliminary investigation Gorskiy was released from custody. The trial then took place. At this point metamorphoses difficult to explain began occurring in the defendant. He began denying almost all of his past testimony. He admitted only that he had received alcohol and food items from the Akhmedovs, a bottle of cognac, a box of candy and two books from Zimina. And what about the rest? Gorskiy explained his altered testimony this way. He had previously incriminated himself in order to get the preliminary investigation over as quickly as possible. And the court, presided over by Maj Justice M. Lisakov, seemed to be generally satisfied with this answer.

Certain witnesses also changed their testimony. They had a similar explanation. They were incriminating Gorskiy to speed up the preliminary investigation. Indeed, the more incomprehensible it became, the more convincing its effect seemed to be! This too apparently satisfied the court to some degree.

Please understand me: I am certainly not trying to cast doubt upon the performance of a judicial body and particularly not on its decision. It is simply that some questions remain which cannot be ignored. What are we to believe? Did Gorskiy and certain witnesses reach an agreement before his surprise arrest to give false testimony during the preliminary investigation and then deny it in the court? What is the origin of the almost 30 bottles of alcohol confiscated during the search of Gorskiy's premises if he received only a few from the Akhmedovs and Zemina? And what about the aforementioned 50 [rubles]? Did the accused actually slander the members of commissions? It is difficult not to retort: What a crafty move! He has proved that he himself is not guilty and has diverted suspicions of misdeeds away from superiors. Did he not receive advice? Did someone not give him help?

One can speculate as much as he wants, but the only real thing is the military tribunal's verdict. It states that Gorskiy is sentenced to 3 years in prison with a 2-year deferment. He is not stripped of his military rank or state awards, and he retains his property. The court included in the charges only the incidents involving the Akhmedovs and Zimina, throwing out all the rest. Furthermore, the punishment was below the maximum allowed under the corresponding article of the Criminal Code of the RSFSR. Why? The military tribunal accepted the following as mitigating circumstances: Gorskiy's sincere repentance for his actions, his active participation in the disclosure of the crime, his voluntary reimbursement to the state for the value of his illegally acquired property and also the fact that the defendant had a good record for an extensive period of his service.

I repeat: I am certainly not attempting to cast doubt upon the justice of the verdict issued by the court. Let

the appropriate authorities deal with this. I would just like to know the answers to a number of questions. Pertaining to Gorskiy's "sincere repentance," for example. In just what way was it manifested? When the defendant admitted numerous unlawful acts and vividly described the depraved morals in the training unit, or when the defendant repudiated almost all of this? There is no such thing as alternative truths. And lies and repentance are incompatible. The same as altering testimony and "active assistance in revealing the crime." Rather the former is in conflict with the latter.

There is also a question about "Gorskiy's voluntary payment of compensation into state revenues for the value of the illegally acquired property." On 24 January and 14 February of 1989 he deposited down to the last kopeck the very amount specified in the court's verdict, announced only on 17 February. Was this foresight or what?

And the last thing. During the preliminary investigation, the command element and party organization did in fact describe Gorskiy in exclusively positive terms. So what? That is their right and is also an indication of the maturity, objectivity and principle displayed in evaluating what occurred. Something else in the matter evokes confusion, to put it mildly.

In 1978 Capt Gorskiy was returned ahead of schedule from the Group of Soviet Forces in Germany (Western Group of Forces today) to the Leningrad Military District and demoted. This is what was written in his records:

"Taking advantage of his service position and lack of monitoring on the part of the military commandant, he set out on a path of bribe-taking and drunkenness in 1977.

Having access to the forms for checking out motor vehicles, Gorskiy issued them unrecorded to individuals who had no documents from the command element authorized to issue such documents.

Taking advantage of requests by several officers to help them acquire motor vehicles, Capt Gorskiy took monetary rewards from them for promising to act as a middleman in finding a good motor vehicle.

The fact has been established that Gorskiy received 800 marks from Maj Shapkin.

He received 365 marks from Sr Lt Kolnik in connection with a motor vehicle accident caused by the latter, ostensibly for handling the monetary claims, and drank up the money."

It turns out that Gorskiy is a bribe-taker with a solid record. Were they not aware of this in the training unit? I doubt that. Let us assume that this was precisely the case, however, that their memories failed them. Just why, before evaluating the officer and Communist, and particularly in such a serious situation, did they not inquire about his past? This was a relapse into an old malady.

I dare to suggest that the cause of it all was not the forgetfulness of certain officials but their disinclination fundamentally to look into what happened, to get to the very bottom of it. And to admit their own guilt. Not just with respect to Gorskiy's acts, but also in the situation which had developed in the unit in general.

I shall permit myself a small digression indirectly related to the subject of discussion. It has to do with some ideas expressed by attorney A. Afanasyev. The following, among others: "...the tribunal precisely acknowledges the crime committed by the convicted man: Gorskiy's acceptance of alcohol and food items for committing acts benefitting the providers of said items in accordance with the law, common sense and public morals." How do you like that?!

I do not believe there is any point in entering into polemics regarding this verbal tightrope-walking. Everything is clear. Unfortunately, however, the attorney "hit the nail on the head" in his final statement. I refer to the conformity of what Gorskiy did to the moral climate in the unit. There is much to indicate that he was a long way from being healed at that time. Nor are there any grounds for stating that fundamental changes for the better have occurred in the intervening time.

Lt Col A. Tarabakin, chief of staff, is new there. He did not know Gorskiy personally. He noted that the collective had a good opinion of the latter, however. And is there any point in stirring up a matter which has faded away? It is not Gorskiy who is to blame, but the system. I believe that and so do many others.

I feel that another statement is grounds for "stirring up" this matter. This is because we hear more and more frequently of late the serious and helpless statement that the system is to blame. And with the transparent hint that it is imposed "from above." A very convenient position. If the man in charge makes a mess of things, no one bears responsibility. You cannot hold "the system" accountable. If a commander breaks the law, there is no one to punish. The "system" cannot be convicted. Is this artificially created impersonality not one of the reasons why the energy of a desire for change is frequently released in the form of blank verbal rounds? And does it not create conditions conducive to the advancement of "failures" and "criminals" contrary to all common sense? Incidentally, many officials have been promoted out of the unit.

The maturation of any faulty "system" is a process in which two sides take part. Let us assume that it was planted "from above." But it was accepted and nurtured right in the collective.

No, I cannot agree with Lt Col Tarabakin. Primarily Gorskiy himself was very much to blame for what happened. Those around him also bear great responsibility for what occurred.

With respect to the "system," it indeed existed. But because of what and whom? The answer to this question

is contained in the district military procurator's report to the commander and the chief of the political directorate:

"Mercenary uses were committed by other officials as well....

"Maj V. Sirazitdinov, commander of the training company, and Capt B. Vorontsov, a subordinate platoon commander, for example, regularly received alcohol and food items from the relatives of servicemen for issuing authorization to the latter for leave from the unit.

"Establishing direct contacts with them, Sirazitdinov and Vorontsov found accommodations in the settlement, after which they permitted the soldiers to depart for the night without leave papers, picked them up at their quarters the next morning and personally accompanied them to the unit. In some cases they invited parents of subordinates to the barracks and accepted alcohol from them there. Around 40 bottles were confiscated during a search at the quarters of Sirazitdinov and Vorontsov....

"The fact was established in the case that individuals on daily duty details serving at entrance gates extorted various small offerings from the parents of servicemen for permitting them onto unit grounds, including the headquarters of one battalion, without passes. This was known to the unit chief of staff. He did not investigate the incidents, however. The guilty parties went unpunished."

Is this not a real "system"? Some people might say that it too was imposed "from above." No, this was a... local "invention." The circumstances under which it could exist are another matter. Lack of control is the first one. And a resulting lack of knowledge of the actual situation by superiors. Precisely this conclusion was contained in the district military procurator's report with respect to Lt Gen V. Starchenko. The following fact is an extremely eloquent one. While the investigation was still under way Sirazitdinov, as previously mentioned, was promoted to the next military rank of major....

And what about the political workers, the party and Komsomol organizations? This question cannot be evaded. Did they not know? It is difficult to believe that. Were they merely remaining silent? One wants very much not to believe that.

I spoke with Lt Col A. Oshev, secretary of the party commission in the political section. He quickly responded that there were no indications, that he had known nothing. Let us frankly state that this did not say much for the position of the Communists, which in no way fit into the framework of today's demands and did not measure up to those high-sounding words which have been heard more than once from the speaker's platform at party meetings in the unit and the subunits. Words about principle and boldness in the struggle against deficiencies and, lest we forget, about the officer's honor. Many communists made it possible for Gorskiy to accomplish "his deeds," after all.

Say what you like, Aleksandr Illarionovich, but I had more than just a single reason to doubt your sincerity and principle. When our discussion took on a certain openness, you hinted that someone even higher than Gorskiy was engaged in unscrupulous activities, but if one tried to speak the truth, he would instantly be reduced to dust. No, I have neither the right nor the desire to reproach you for anything. It is true what they say: that one cannot do the impossible, that each person lives as his conscience dictates.

You mentioned something else at that time. When it came time for your son to serve in the army, you would assign him where you were, to the reconnaissance sub-unit. Forgive me, but I wanted to repeat what you said on the matter at that time. This position basically differs little from the one taken by Gorskiy. You will not receive anything from yourself or from your son for getting him set up. On second thought, you might get something from him: gratitude and respect. With respect to the other matter: use of service position for personal purposes. What if someone does not have your possibilities? He wants to do just as well. And for it all to be done fairly. But there is only one way: to find people like Gorskiy, beg them and pay for their services. They are at a disadvantage, of course, and you are the winner. Is there anything you would not do for your son? You intend to go against your party conscience, for example. And then there is money....

I know that I was telling Oshev basic truths. But you know, it bothered me. After all, if the secretary of a party commission in the political section was convinced that he could take a step contrary to justice, then what could be expected of the other Communists? I am confident that he has more than once spoken about the pure and honorable image of the party member.

Returning to the Gorskiy case, we need to direct attention to a question which has not yet been answered. Just who took bribers or ordinary petitioners to the assistant chief of staff? The investigation revealed that Gorskiy's group of friends and connections was extraordinarily large. Within that group were many links to Leningrad military commissariats and officers employed there. And the connections were bilateral. When Gorskiy asked for a certain draftee to be assigned to the Leningrad Military District instead of Chita, who responded to his request? Maj A. Kasatkin in the Kirovskiy Rayon Military Commissariat. He himself testified that it was to him Gorskiy sent a note with approximately the following contents: "Arkadiy Antonovich, I earnestly ask you to do everything possible to see that R.A. Varshanidze remains in the district." And this was done.

Maj V. Pigarev was among Gorskiy's acquaintances in the Vasileostrovskiy Rayon Military Commissariat. It was he, for example, who suggested that draftee Akhmedov see the assistant chief of staff of the training unit about arranging for "a good assignment." The latter, he indicated, would help.

Criminal charges were also filed against Pigarev. The investigation showed that he not only referred clients to Gorskiy; he himself willingly accepted bribes from draftees, from their parents and relatives to arrange for the future soldiers to be sent to areas of the nation, districts or groups of forces they indicated and for the illegal granting of deferments from the draft. A report by the district military procurator stated the following:

"From May 1985 to June 1988 Pigarev received as bribes various goods, alcohol, cash and food items worth more than 5,000 rubles. Furthermore, he deposited 2,000 rubles into his own savings account.

"For the illegal granting of deferments from induction for active military duty Pigarev received the following from citizens Belyshev, Manukayev, Krolli and Polukhov, parents and relatives of draftees, and from draftees Kiziyeu and Polukhov: A Danasson radio, a Citizen wrist watch, 650 rubles and 20 bottles of various kinds of alcohol worth a total of around 300 rubles. During the first 6 months of 1988 alone he received around 3,000 rubles and alcoholic beverages worth around 140 rubles from citizens Akhmedov, Aslanov, Veliyev, Zeynalov and Israfilov, as well as from draftees Akhmedov, Israfilov and Polukhov themselves for assigning them to regions of the nation indicated by them."

The absence of control over Pigarev's service activities was one of the main factors contributing to the flourishing bribe-taking. He easily switched crew assignments and illegally filled out deferments for the draftees, and no one did anything about it. Neither Lt Col A. Grishchenko, chief of that section in the city military commissariat, nor Capt 1st Rank M. Khvostov, rayon military commissar. How could it have been otherwise when the latter was himself abusing his service position?

I would note that such things are nothing new in the Leningrad's rayon military commissariats. They have been uncovered also in the past. As a result certain officials have been held criminally accountable. Officer K. Moskvina and certain others, for example. At the recommendation of the military procuracy party measures and disciplinary action have been taken in the case of a number of officers, up to and including discharge from the armed forces of the USSR. The investigation of the Pigarev case showed, however, that the proper conclusions were not drawn.

An in-depth analysis is not required to see that the work performed by the military commissariats with the cadres is one of the bottlenecks. It has been pretty much neglected. This applies first of all to the selection of worthy officers, to their placement and indoctrination. And who dealt with this matter until recently? Lt Col N. Borodin from the district personnel directorate. Criminal charges were also filed against him. There has still been no final decision in his case, and we therefore refrain from commenting on the matter. With respect to Pigarev, he was convicted. This was the court's decision.

Yes, thanks to the effort of law-enforcement agencies, much of that which was concealed until recently has now become apparent. One has to be alarmed by certain matters even now, however. Why is it that for an inconceivably long time dishonorable and dishonest people calmly did their dirty deeds? How was the stagnant moral climate maintained in a number of military collectives literally under the nose of the district political directorate? After all, the military procuracy has previously reported improper actions by certain officials. One cannot say that this was ignored by the political organs and party organizations. No, certain steps were taken. Most of them were half-measures, however, which did not make it possible to root out the evil but could only "damp" the flames. The main thing was lacking, I believe: systematic party-political work to develop morality in the personnel and improve the moral climate in the collectives.

I could conclude these comments, of course, by saying some generally correct words about the fact that the incidents cited simply call out for the command element, the political workers and party organization to fundamentally alter their work style. Not to take action after the fact but to place the main stress on providing constant and effective monitoring in each area, on daily work to indoctrinate the personnel and on the shaping of a public opinion intolerant of any manifestations of bribery or favoritism. That is all so. But so much has already been said about this! I shall therefore mention something else. As I was writing this article, one thought would not leave my mind and brought pain to my heart. We have people today who are doing their utmost to defame the army. This is discussed a great deal among the officers. One can also hear anger. Sometimes unjustified. But just how can we permit someone in our ranks to strike right at the core of the prestige of the Armed Forces?! Not just verbally, but with foul deeds.

From the editors: While this article was being readied for publication we learned that the "Gorskiy case" will be heard by the Military Bar of the USSR Supreme Court. The reader can learn the results and also the final decision on the "Borodin case" in one of our issues.

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Uniformed, Civilian Officials Discuss Armenian SSR Military, Related Issues

90US0224A Yerevan KOMSOMOLETS in Russian
31 Oct 89 p 2

[Article by M. Diloyan: "We and the Army: Experience of Mutual Understanding"]

[Text] The processes taking place in our society, whether we like it or not, are largely forcing us to look anew at phenomena and things that seemed familiar to everyone. They are giving rise to new attitudes and creating a new reality. The numerous rallies, the sit-down demonstrations, and the strikes are already becoming commonplace.

Armored personnel carriers and lines of armed soldiers no longer surprise them. They no longer gather in small circles to look over a poster pinned to the fence of the Central Committee "Not One Soldier to the Army of Occupation" and the group of young conscripts under it. No longer... But then there have been quite a few changes, and no one is surprised that today a general and a conscript can sit at the same table and carry on a dialogue as equals.

This dialogue is necessary today; it must not stop until as long as there are disturbing issues.

The other day at the Armenian Komsomol Central Committee, a "round table" meeting was held between representatives of the Army and the republic military commissariat, Komsomol organizations of the city, the Armenian Nationwide Movement, and the mass media.

Before turning to the essence of the conversation that took place, I would like to introduce some of its participants, but not with the customary phrase "Present at the meeting were..." because the word "present" does not fit well with the serious and intense exchange of opinions on the most acute and painful problems. So, the following participated in the round table: Maj Gen Mikhail Surkov, USSR people's deputy, military council member, and chief of the political department of a troop formation; Gurgen Akopyan, secretary of the Armenian Komsomol Central Committee; Col Eduard Gevorkyan, chief of the political department of the Republic Military Commissariat; Capt Yuriy Budarin, assistant chief of a political body for Komsomol work; Samson Kazaryan, member of an initiative committee of the Armenian Nationwide Movement (AOD); and Suren Sirunyan, member of an initiative group for protection of the rights of conscripts; and others.

Answering the first question of representatives of the mass media about what the military thinks about creating a national army, national units or formations, Maj Gen Surkov and Col Gevorkyan tried to outline their points of view on this question thoroughly and in detail. But before touching upon the problems of national formations, USSR People's Deputy M. Surkov stated:

"I am often asked about my attitude toward Armenia, toward the Armenian people. I have on more than one occasion already expressed my opinion that I respect the people, feel pain and anxiety over their troubles, and understand the plans and hopes of the Armenian people. As a deputy from Armenia, and moreover from the disaster area, I believe that I am doing everything within my power to assist my electorate, not only as the people's chosen one but also as a Communist and a general.

"It seems to me that we are gathered together today to conduct a frank, honest dialogue; therefore, it is natural that we may turn out to have different points of view, a different approach and understanding of certain problems. I would not want the differences in views to turn into conflicts. We came here with the hope that this step

would serve the main cause—mutual prestige and friendship between the army and the people.

"Taking advantage of the fact that representatives of the mass media are present, I would like to appeal to everyone again—let us meet more often. Our doors, the doors of any military unit are open for any person. We have proposed through the newspapers to set up open house days, we are willing to talk. We have had many mistakes and many, many shortcomings, but I know there is also something positive that we can share.

"Now, my opinion on national formations. The idea of national formations exists today not only in Armenia. This question has been raised in the Baltic region, in Moldavia, and in other regions. I think that before we turn to solving this matter, we must consider from the state point of view whether or not the republic is ready today to solve three basic problems: What will be the basic doctrine of these national formations that are being proposed to create here? The second question: What kind of economic support will there be for this national formation? And finally: How will the cadre and technical question be resolved? I know well and am convinced that it is impossible today to create national formations on the scale of our state. Economically, not a single republic is ready to arm such a formation. We must also think about whether the republic will be able to support it in terms of military-technical and cadre training. Yes, Armenia can be proud of its Heroes of the Soviet Union, its generals, and officers who covered themselves with undying glory during various periods of Soviet history, and we have officers of the Armenian nationality serving well today, too. But, certainly, that is not enough for today.

"In addition, what about the troops providing security for the union? I have in mind the Border Troops, the Strategic Rocket Forces, the Navy, the Air Force? Who will support them? This idea can be developed further, too. One can ask: Who will supply service members to the Railroad Troops?

"I am of this opinion: There can be and should be subunits created based on nationality. They should be made up of people who through their labor in production and in agriculture have earned the right to serve at home, on the territory of Armenia in this case, in such small national subunits as a platoon or company bearing the name of some national hero or Hero of the Soviet Union. But the rest, I think, is unrealistic today. It is especially unrealistic because national relations have worsened and continue to worsen; you see, national formations may be used, unfortunately, for other than intended purposes. This in general terms is my point of view toward creating national formations."

Eduard Semenovich Gevorgyan, chief of the political department of the republic military commissariat, also expressed his point of view on national military formations.

"Those who closely follow the events in our republic know that the proposals to create a national army were heard for the first time and outlined on 4 August of this year at a rally dedicated to creating a national army. I met with comrades calling themselves members of an initiative group for creating a national army. I have already expressed my position on the issue on the pages of KOMSOMOLETS. There was another article in KOMSOMOLETS in which a worker from the Astro Plant disagreed with my arguments.

"When I met with representatives of the initiative group, I asked what they meant by the word combination 'national army.' They explained to me that a national army is an independent army that is subordinate to the parliament of the republic and carries out the will and laws of the Armenian parliament. I have a question in return: What, today there is already an independent Armenia, we have resolved all the issues, Karabakh has been annexed, the blockade has been lifted, and now we have to deal with issues of a national army? I want to ask one more question: Do you know how many armed forces Turkey has? You see, an army is created to protect against an external enemy. Altogether different issues are being raised now, in essence, about a national guard, self-defense forces. So, how many troops does Turkey have? If I am not mistaken, about 560,000. (Here Maj Gen Surkov made a correction—700,000 soldiers and officers and 24 NATO missile bases.) You would have to have a minimum of 500,000 soldiers to oppose Turkey. You have to have the appropriate training centers to train specialists for the armed forces. Even if the republic is able to create four training centers for training tank crewmen, artillerymen, communications personnel, and so forth, these training basis and areas would occupy roughly 50-60 percent of the territory of Armenia. Tell me, is this realistic in existing conditions? Even 10 republic budgets cannot cover this.

"More than 100 training units and schools scattered throughout the Soviet Union train specialists for units stationed in Armenia. I would like you to ponder these figures: We annually receive orders for almost all schools of the Soviet Union for approximately 2,000 people. We fill 50 percent of the orders (approximately 1000-1100 people), and 35 percent of this number enroll each year. Mainly, our Armenian youth enroll in motor vehicle, rear services, finance, and political schools. You will not create a national army with such a composition of specialists.

"Opponents object, saying that if there is actually not enough money, the plants will help, the factories will help, and so forth. Comrades, you will not create an army at such a level and with such amateurish arguments. And another thing: There are comrades sitting here with whom I have met (meaning members of initiative groups). None of them, other than general speeches at rallies, has presented any kind of platform, any kind of program, any arguments. Thus, at the rally on 4 August, they said the following, literally: 'People,

congratulations on creating a national army!" The question of a national army, if it comes up, is not resolved at the level of the military commissariat or the political department of the formation of troops stationed here. All these questions require serious study—above all, the economic and financial questions."

"One more thing," M. Surkov added. "Despite the unilateral reduction in armed forces on the part of the USSR, NATO has not reduced its contingent in Turkey by a single soldier or by a single rifle."

The question of creating a national army, especially in light of recent events, cannot help but excite and interest the public of the republic. It was not by chance that the question was asked first, and it is understandable that even a detailed analysis of the position on this problem left room for more questions. The question that was asked by the representative of the information center of the Armenian Nationwide Movement, I am confident, was on other people's minds, too. Being a part of the Soviet state, Armenia, like the rest of the republics, has been making corresponding deductions to the country's budget, a certain part of which has been going to military needs. Logic says that some specific portion of the armaments of the defense industry and so forth have been paid for by our republic, and it has a right to this portion. The remarks by the military persistently contain the thought that we must start everything from nothing.

Unfortunately, none of the people present, apparently, had the necessary economic calculations for a precise answer to this question. Nevertheless, in responding to the question, the military council member made the assumption that despite the relatively high profitability of the republic (Armenia contributes about 1 percent to the country's state budget), it is not likely that the amount remaining after mutual recalculations would be enough to create a national army.

The "round table" discussion lasted about 4 hours, so there was no opportunity to address in detail all the problems broached. A large part of the questions concerned how many Armenian soldiers are serving on the territory of the republic, by what principles the military commissariat is guided by in selecting the contingent to serve in the republic in certain branches of troops, what percentage of Armenian youth are sent to serve in construction units, and so forth. Col Gevorkyan and Maj Gen Surkov gave explanations concerning this. It must be taken into account that the figures vary each year. Thus, this year they have dropped by 2,000-3,000 for known reasons (the earthquake and so forth). Up to the present, 0.5-0.7 percent were left to serve in the Border Troops on the territory of Armenia.

The Border Troops select draftees for themselves; during the draft they meet with the lads, consider their "vocational suitability," and so forth. The rest, approximately 80 percent, are drivers. Although, the total number of Armenian soldiers in units of the republic is greater, since the figures are cited only for the republic's military

commissariat. Armenian soldiers are also drafted from other regions of the country and are transferred to Armenia from training units and centers for duty. Today the question of leaving up to 20-30 percent of all draftees to serve in the republic is being resolved once and for all. These questions have been carefully studied by a commission of the General Staff of the Ground Forces and re-examined, and at present there is an agreement that up to 2,000 will be left to serve on the territory of Armenia.

"Several times at the sessions of the Supreme Soviet of the republic," said E. Gevorkyan, "Deputy Khachik Stamboltsyan has cited figures on how many Armenians are serving in the Construction Troops. One time he cited 100 percent and another time 40 percent of all draftees. I say that these figures do not correspond to reality. We have analyzed all data from 1985, and the largest figure was 30 percent; it dropped as low as 29 and 26 percent. Now the order has been cut in half—and we negotiated to have all of them serve in Armenia, in the disaster area. There is an agreement to increase the orders for draftees to the training center in Tbilisi; there the Armenian draftees will receive a military specialty, and all 100 percent will return to serve at home."

Lately rumors have been spreading in the republic that many Armenian youths are dying as a result of clashes with Azerbaijanis due to nationality. How true are these rumors? How should we regard the official versions of the death of soldiers? What are the true statistics of the tragic incidents? There exist official and unofficial lists in which the causes of the tragic incidents are interpreted differently...

Quite naturally, the question has come up about what is being done to make sure that Armenians do not end up in units in which Azerbaijanis are also serving, since clashes due to nationality are possible. We cannot help but be concerned about this problem today, especially in light of the events taking place and the new escalation of tension.

"Of course," Maj Gen Surkov noted, "we are not able to restaff the entire Soviet Army today. This is impossible and unrealistic. I want to state with all seriousness that, according to data I have available, during all of 1989 two people were killed due to nationality clashes. I want to note that these figures are just for the Soviet Army and military construction detachments of the Ministry of Defense. This does not include the Border Troops and construction workers who are not subordinate to the minister of defense. The total number who have died is much larger, of course. Today people in the army are being killed, and we cannot escape that. Unfortunately, this is the bitter truth, just as it is the truth that people are being killed outside the army. Informal groups, representatives of the public, and Afghan veterans have asked me why Armenian soldiers are being killed. When I was in Moscow at a session of the USSR Supreme Soviet, I looked into this question. We did an analysis of

all nationalities of the union republics. I am not authorized to cite the total figures, but I will say that in percentage that Armenians are somewhere in the middle of the list for the number killed. There are no more or no less Armenians being killed than other nationalities. The analysis showed that the main reason is violation of safety procedures and traffic rules.

"We did not observe any trends of an increase in the number killed associated with the inter-ethnic relations and the events of the last 2 years. The overall increase in the number of tragic incidents in the army is related primarily to a series of aviation accidents, the loss of submarines, and the train explosion in the Urals, in which many service members also were killed.

"As regards the death of our young men this year, we tried to investigate thoroughly what took place. Unfortunately, there are still cases in which a unit in which a tragic incident occurred sends a noncommittal answer to the military commissariat and the parents, which naturally gives rise to suspicions and rumors. We have sent inquiries to all units and all procuracies in order to find out what happened in each specific case."

At recent assemblies, the republic military commissariat has raised the question before the General Staff about not having Azerbaijanis and Armenians serve together, even if on the scale of small military subunits. It was promised that very close attention would be given to this beginning with the present fall call-up.

All participants in the "round table" agreed that it is necessary to set up public commissions which would be made up of specialists and representatives of the military commissariat, the Armenian Komsomol Central Committee, and the mass media, and that they visit units and clear up all the questions once and for all. They also agreed that such questions need glasnost and that it is necessary to inform the public of the republic in a timely manner. It was proposed to publish lists for the last several years, with appropriate comments and indicating the causes of death. It must be noted that representatives of the AOD expressed apprehensions that the military does not want to make public certain facts and will hinder the work of the commissions. Mikhail Semenovich Surkov assured them that he is willing to help as much as he can in creating the optimum conditions for the commissions' work.

Much was also said about the problem of soldiers who have gone absent without leave and come home. Col Gevorkyan turned to the representatives of the mass media and members of the initiative group for protecting the rights of draftees with a request to inform soldiers who had left their units without permission, their parents, and loved ones that if such a thing has happened, they must consult the military commissariats. Otherwise, criminal proceedings will be brought against them, regardless of the reasons why they deserted their units. All claims will be examined thoroughly, and if the facts

are confirmed, all measures will be taken by the appropriate services, up to and including transferring them to different units for them to continue serving.

Eduard Sarkisovich confirmed that indeed there are cases in which soldiers are physically and morally assaulted and that there have been cases of relations at variance with regulations, as the army calls them.

"The garrison procuracy, headed by Col Justice Sevyan, investigates these cases, sends the people that have been mistreated to the hospital, and sends the case to the prosecutor of the garrison where this took place. But there are also those who, as they say, simply take advantage of the moment, and there are those who themselves have committed a crime, but here they pass themselves off as the victim. Now the decision has been made that those who turn to the military commandant's office will be formed into a separate unit. They will serve here until all the circumstances have been clarified."

To confirm what was said, Col Gevorkyan and other officers taking part in the "round table" cited several incidents that have taken place.

The secretary of the Yerevan Komsomol Gorkom, O. Tsaturyan, asked a questions which, judging by the lively debates, interested many: How was the figure of 20 percent determined for those draftees who will remain to serve in Armenia and in the disaster area? Is it possible—and the Yerevan Komsomol Gorkom adopted a decision at its plenum to make a request of the USSR minister of defense in this regard, considering the consequences of the tragic earthquake and the situation in the republic—to leave the entire call-up for this year in Armenia?

The following was said in this regard: The requirement of units stationed on the territory of the republic is 5-8 times less than the number being drafted in Armenia. There are now 10 construction detachments working in the disaster area, manned with people and outfitted with equipment, having their own personnel, and so forth. The strength of each detachment is not over 500 men, and there are no "vacancies" in them. So, the realistic figure for those who will remain to serve in Armenia is not likely to exceed 20-23 percent. Primarily, these will be young men from the disaster area, those who lost relatives and loved ones, those left without a roof over their head, and also those from other areas of the republic who have a difficult family situation, have no parents, or have large families, but by law cannot be exempt from the draft. The military commissariats are willing to publish lists of those who will remain to serve in Armenia.

Now there are sit-down demonstrations taking place in many areas of Armenia, including in Yerevan. I was proposed to send their participants to work in the earthquake area as an experiment. However, we do not have any information that the experiment has begun, unfortunately.

In our view, the participants in the "round table" did not come to a common opinion on a number of question, in particular, on why it is not possible to add some portion to the 20 percent being left to serve in the republic (and this decision was made with respect to all union republics), considering that Armenia is in a special situation today as a result of the tragedy, and also on the fact that if it is not profitable to create national units, how profitable is it to draft young people from every corner of the country to serve in Armenia.

The conversation also turned to participation of the republic's Komsomol in military-patriotic work being conducted in units located on the territory of the republic, how Armenian soldiers are serving, and assistance from the Armenian Komsomol Central Committee to Komsomol organizations of military subunits. The secretary of the Armenian Komsomol Central Committee, G. Akopyan, responded to a number of questions from officers who are secretaries of Komsomol organizations of military subunits.

However, there remained a whole layer of questions that seemed to hang in the air. These concerned Sumgait, "Zvartnots," the arrest of members of the "Karabakh" and "Krunik" committees, the recent events of 10 October in Stepanakert, and so forth. They concerned the confidence of the people, youth, and draftees in the army, and what has brought about the reluctance to serve in the ranks of the Soviet Army and the strikes by draftees during the last two call-ups. Maj Gen Surkov

emphasized that, in his opinion, many do not wish to separate the Soviet Army from the Internal Troops.

"The fact of the matter is," he said, "that the Soviet Army is called upon to protect the borders of our homeland against an external enemy. The Internal Troops have totally different tasks. I say with all seriousness," he said, "that there was not a single soldier of the Soviet Army on Oktemberyan Prospekt or at 'Zvartnots'. So the term 'the military', by which they combine us all into one whole, is advantageous only for those who do not want to understand the essence of what is taking place. Yes, we were charged with the responsibility of implementing a curfew in Armenia, but during this period not a single Armenian died at the hand of a soldier of the Soviet Army. At the First Congress of People's Deputies, they condemned this practice of using soldiers of the Soviet Army to carry out internal tasks. And I share and support this opinion fully."

One can understand the position of the chief of the political department of the formation of troops, but this does not reduce the number of questions. All the participants in the conversation that took place agreed that it cannot be considered finished. Besides a continuing dialogue with representatives of the Soviet Army, we would also like to hear the opinions and position of the representatives of the Internal Troops. Indeed, quite a few questions have accumulated for them. We would hope that they will respond to the proposal to hold such a meeting.

Announcement on 1990 Withdrawals from Hungary

*18010016 Moscow KRASNAYA ZVEZDA in Russian
23 Dec 89 First Edition p 1*

[Unattributed report: "Report from the USSR Ministry of Defense"]

[Text] In conformity the earlier decision on further reductions of Soviet troops, temporarily located on the

territory of the Hungarian Republic, in 1990 a series of military units and subunits, including one aviation regiment, one motorized-rifle regiment, two separate tank battalions and other units will be returned to the Soviet Union.

In total, this involves: six thousand servicemen, more than 40 aircraft, 120 tanks, 180 pieces of armored equipment and more than 400 motor vehicles.

Military Commissar On Draft, Ethnic Conflicts
18310040a Baku ADABIYYAT VA INJASANAT in
Azeri 11 Aug 89 pp 1,3

[Interview with Major General Abulfaz Gasymov, AzSSR Military Commissar: "Weapons Are Death"]

[Text]

[Question] As we know, arming has gone on at such a great pace in recent decades that it is possible to destroy the earth several times over with existing weapons. What would you say about a unilateral reduction in arms and armed forces in such a complicated period?

[Gasymov] This was widely discussed at the Congress of USSR Peoples Deputies. In my opinion, soon, that is by 1991, a unilateral reduction in a significant amount of weaponry and half a million personnel is the best way out of the existing danger. In general, it is planned to reduce military expenditures two times by 1995. Certainly, this is a major step to be taken in a short time. One can explain the reduction in a number of ways: first, the modern weapons being created in the world today go so far beyond the limits of defense that they have turned into a threat to mankind itself; second, weapons have been perfected to the extent that there is no need to keep a great part of them; the third reason is connected with economics: capital turnover has worsened and a number of economic difficulties have emerged.

[Question] One of the problems which has disturbed the world public in recent years is the militarization of space.

[Gasymov] Yes, some space flights are conducted for military purposes. But there is a positive side to this. Nikolay Ivanovich Ryzhkov, chairman of the USSR Council of Ministers, said at the Congress of USSR Peoples Deputies that according to calculations by specialists at the Ministry of Defense the implementation of a military space program will increase the fighting effectiveness of our armed forces 1.5-2 times.

[Question] It is natural that arms reduction will result in the saving of a lot of money. What will the money saved be spent on?

[Gasymov] I must note that as the result of a reduction it is planned to save some thirteen-fourteen percent of funds allocated to the military budget. The annual budget is roughly equivalent to the twenty year budget of a republic like Azerbaijan which is slightly less than four milliard. We will divide the money saved in a number of directions. The greater part of the money saved will be put towards the development of the economy, including raising the peoples', including military officers' material wellbeing, and part will go towards raising the quality of military technology. It has also been planned to allocate additional funds for military research.

[Question] Once more on the military draft. According to what we have heard, we will cease calling students into military service during their studies. Is this true?

[Gasymov] Yes. Such a law is being applied again for students in higher schools.

[Question] What do you mean "again?"

[Gasymov] Because up till 1975 such a law existed. It was later abolished for a definite reason.

[Question] What was this "definite reason?"

[Gasymov] It is known that one of the damages done to our people after the second world war fell to the share of the postwar second generation; namely, that the number of those called into military service dropped in relation to military needs—the draft plan was not fulfilled.

[Question] What form will the military draft take for graduates of higher schools?

[Gasymov] Students graduating from higher schools with military departments will go into the Reserves with the rank of Lieutenant. Unqualified graduates of higher schools without military departments will be called to military service for one year. At the end of this period, if they wish to enter a two-three month officers training course, they can receive the rank of junior lieutenant. At this point, I want to make a qualification. Now, individuals with higher education who are called into military service are first placed into military units like a rank and file soldiers and they are often made to suffer by more experienced soldiers. In the future, this will not occur. Draftees will first finish a divisional junior command course, and then they will begin to serve in a military unit.

[Question] Perestroyka and glasnost have breathed a new atmosphere into the country, and a number of informal organizations have been formed. One of the questions that have been raised is the question of the draftee serving in his own republic. Do you think this is possible?

[Gasymov] This is a very difficult question primarily because it is not always possible for military units in the republics to place all the draftees there. And forming new military units is not profitable.

[Question] Let's say a person born in a warm climate is suddenly sent to one of the military units in the Arctic. The fact that his organism cannot adapt itself to this severe climate does him so much harm that he thinks about this with bitterness for years afterwards.

[Gasymov] Who has to do his service in uninhabited border zones, on the Pacific Ocean, or, as you said, the Arctic, or in limitless deserts, forests or mountains? We are not talking about military officers serving abroad. In my opinion, this is a situation that never comes up. On the other hand, is it economically possible to allow

someone to demand to do military service in his own land or for republics to keep military units on a "subsidy?"

[Question] Let's raise the issue of soldiers returning from military service. After these soldiers, who have served for two or three years, leave the army they need to make a living. They have to buy clothing, fulfill passport regulations, get a job, make a living and eat. Some of them do not have parents or anyone that can help them. What are they supposed to do? Would it be impossible to pay draftees a small salary as is done in the armed forces of other countries?

[Gasymov] Certainly, since we do not have salaried soldiers the situation of soldiers who have finished their service is difficult until they arrange for a job. You even come across those who are unable to emerge from their military uniform and boots for a long time. Such as they, one might say, have to live off others. There is only one way we can eliminate such unpleasant situations: to find such soldiers work quickly and expedite the passport procedure. As far as a salary is concerned, the economic situation of the USSR does not permit this at present.

[Question] Events in a number of places in our country have created turbulence, and in some instances have led to mass conflicts, national and racial discrimination and even mass violence. Have any compromises been made in connection with the situation in Armenia, Georgia, Moldavia, the Baltic, Kazakhstan or Uzbekistan?

[Gasymov] Some slight ones. For example, in connection with the events which reached a high degree of tension last fall no draftees of Azerbaijani nationality are sent to Armenia. This would still be impossible.

[Question] Recently rumors have been circulating to the effect that due to a shortage of women in some territories where soldiers are serving medical preparations which reduce passion have been mixed into the food of soldiers without their knowledge, and that this has led to serious tragedy when these soldiers return to civilian life. Is this true?

[Gasymov] To answer this question I would have to turn to the 28th issue of this year's ARGUMENTY I FAKTY. Lieutenant General (Medical Services) P. O. Vyazitskiy, deputy chief of the Central Military Medicine Administration answered the same question which readers had put to the newspaper. He said that no medical preparation is put into the soldiers' food other than vitamin C which is added to the food whenever there is a vitamin deficiency.

[Question] One of the questions which disturbs everyone is about the internationalist soldiers who fought in Afghanistan. What would you say about this?

[Gasymov] In general, soldiers from Azerbaijan, numbering 6,743, fulfilled their internationalist duty in Afghanistan. Of them 6,109 were Azeri by nationality. Not a few of them were killed, wounded or crippled.

[Question] Could you put it more concretely?

[Gasymov] In concrete terms, from the first days of the Afghanistan up to the present 208 youths from Azerbaijan died in this land and 319 were wounded or invalidated out. There are also not a few who returned with medals and ribbons on their chests. One can also talk about them. One can mention the names of those awarded the Red Banner: Sary Mammadov (posthumous), Senior Lieutenants Shakir Ahmadov and Rovshan Huseynov, Captain Yunan Yusifov and dozens of others.

[Question] No doubt compensatory privileges were given to the internationalist soldiers who fought in Afghanistan and their families by the party and state. What sort of further work was done about this in recent years?

[Gasymov] In the 17 January 1983 and 9 August 1988 decrees of the CC CPSU and USSR Council of Ministers and the 6 May 1989 decree of the AzSSR Council of Ministers broad privileges for the internationalist soldiers and their families were proposed. Let us consider the latter decree. In this decree which consists of sixteen paragraphs major concessions were made in the solving of the internationalist soldiers' housing, in allocating land to them for a garden and a private house, in giving them precedence in the purchase of construction materials and in arranging for medical treatment, sanatoriums and rest homes and medication. Special compensation was also established for those disabled in battle in Afghanistan.

[Question] How many disabled are there and what privileges do they have?

[Gasymov] There are fifteen in the first group, 122 in the second and 92 in the third. Medicine is given to the disabled free and, to the extent that it is possible, they are guaranteed work; they receive privileges in transportation and even the families of disabled veterans are freed by the state from certain taxes. By 1990 the installation of telephones at the cost of local Soviets of Peoples Deputies, kolkhoz and sovkhoz organizations in the homes of all the disabled will be completed.

Definite work has also been done in the sector of training. Precedence is given to internationalist soldiers in admissions examinations and free preparatory courses have been set up for them. In the 1991-1992 academic year a special faculty will be created in one of the higher schools for paralyzed veterans.

[Question] It seems that there are definite innovations in the stipends of internationalist soldiers.

[Gasymov] Yes. For disabled soldiers a stable stipend independent from his length of service has been established. Based on the new decree 160, 150 or 110 rubles according to group will be paid. Families of soldiers who died in action or after have not been forgotten in the new decree. Mothers of these soldiers will receive fifty rubles

after the age of fifty, and children who have lost their father will receive no less than sixty rubles.

[Question] Everyone understands the fate of a number of soldiers who are missing in action in Afghanistan. I am sure that some of these soldiers were taken to Pakistan by the resistance. Are there any from Azerbaijan among those missing in action?

[Gasymov] Yes. There are seven. One is Russian and the other six Azeri. We have no precise information about them. After long research we are able to get a letter from the military unit in which one of them served. This information is about Sahib Abdulrahmanov from Guba Rayon. Arriving in Feyzabad Rayon of Afghanistan under military orders, the soldier suddenly fell into a river and has still not been found. It is not easy to say anything concrete about those missing in action. It could be they are healthy.

[Question] Much has been written about the Nadezhda Peoples Committee which was established recently, and radio and television programs are being prepared about it. Are there any Azeri mothers on its commission? And what can you say about its work?

[Gasymov] Yes, a peoples commission working to free Soviet military prisoners in Afghanistan has been formed. A group from it was received by M. S. Gorbachev, General Secretary of the CC CPSU and chairman of the USSR Supreme Soviet, on 14 July. They have met with Pakistani statesmen and with President Najibulla of Afghanistan and requested help in finding Soviet soldiers who are missing in action. As of now this question has not been resolved positively. What can one say: war is not without tragedy. Such a harsh judgment is one of the merciless laws of all wars. I do not know whether or not there are Azeri mothers in the Nadezhda Peoples Committee, but in my opinion, the influence of representatives of many nationalities, including Azeri mothers, in such a committee would be great.

[Question] What can you say about the present relationship of the military commissariat, including the leadership of the republic government, with the internationalist soldiers who fought in Afghanistan?

[Gasymov] We hold regular meeting with these soldiers and take a close interest in their wellbeing and living conditions. Special personal documents have also been arranged for these soldiers. The meeting of republic government leaders at the head of which was A. Kh. Vezirov, first secretary CC AzCP, with the internationalist soldiers at the commissariat a few months ago was a memorable event.

At this point I have to note that we have many complaints about local organizations, specifically the ispolkoms of Soviets of Peoples Deputies. Under the conditions of perestroyka and glasnost they must put an end to their bureaucratic and stalling work principles with regard to the internationalist soldiers.

[Question] Our last question is again about the reduction in military technology and the armed forces. In your opinion, will unilateral reduction play an important role in the fate of mankind?

[Gasymov] Of course. True, I am myself a soldier in the armed forces. But I can definitely say that no kind of weapon has ever brought happiness to mankind.

Maj Gen Bay Interviewed on Pensions, Benefits

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VOORUZHENNYKH SIL in Russian No 19, Oct 89

(Signed to press 26 Sep 89) pp 63-68

[Questions from readers and answers by Maj Gen N. Bay, deputy chief of the Central Finance Directorate of the USSR Ministry of Defense, under the rubric "Please explain...": "Pension Provisions for Servicemen"]

[Text] A study of the editor's mail has shown a considerable increase recently in the number of letters having to do with pensions for officers, seagoing and shore-based war-rant officers, extended-duty servicemen and their families. The main and central directorates of the USSR Ministry of Defense are also receiving a large number of letters with questions of this kind.

In our opinion, this is due, on the one hand, to the fact that the draft new Law on Pensions for Workers is presently being worked out in the nation, which cannot but affect the interests of servicemen as well. On the other hand, the reduction of the Armed Forces presently underway is resulting in the discharge of tens of thousands of people from active military duty. Naturally, many of them have an interest in the procedure for allotting and paying out pensions. Maj Gen N. Bay, deputy chief of the Central Finance Directorate of the USSR Ministry of Defense, answers questions from our readers here.

About the author: Nikolay Maksimovich Bay has served in the Armed Forces since 1960. He graduated from the Leningrad Artillery School imeni Krasnyy Oktyabr and the Military-Political Academy imeni V.I. Lenin. He served a long time in the Leningrad, Ural and Belorussian military districts. At the present time he is deputy chief of the Central Finance Directorate of the USSR Ministry of Defense.

[Question] What is the established procedure whereby servicemen receive pensions? How is the right to a pension for length of service determined, and how is the amount of such pensions calculated?—M. Rychagov (Kishinev), I. Blonskiy (Leningrad), A. Korniyenko (Petrovsk, Saratov Oblast) and others.

[Bay] Due to the nature and the specific features of the military service and the difficulties and depravations which it invariably involves, Soviet pension laws provide for certain benefits for servicemen. Entitlement to a pension for length of service ordinarily does not depend upon the age of the serviceman at the time of his discharge from active military duty. In a number of cases

military service is calculated on a special, advantageous basis for inclusion in the length of service required for a serviceman to receive a pension: service in military units in the field, on flight status in the air force and the airborne troops, in remote areas and in certain other situations. A comparatively advantageous procedure is used for the payment of pensions to employed military pensioners, which provides for the pensioner to retain at least half of his pension no matter how much he earns.

Under the current Statute on Pension Provisions for Servicemen and Their Families the amounts of pensions for length of service are based on the serviceman's military job, on his previous pay scale and on his length of service (both that calculated by the calendar and periods served under the special, advantageous conditions). In some cases they depend also upon the age of the serviceman and the reasons for his discharge from active military duty.

The law provides for pensions for serving 25 years in the amount of 50% of the pay rate (60% for officers who have reached the age of 55 and are discharged into the reserve for reasons of age or health, as well as those released into retirement for reasons of age or health), and 3% of the pay rate for each year served over and above 25 years, but not to exceed 75% of the pay rate, a ceiling set for all military pensioners.

In addition, corresponding maximum amounts in absolute sums are established for various categories of servicemen, which pensions may not exceed. Pensions may not exceed 150 rubles per month, for example, for junior officers discharged due to manning reductions or health restrictions, seagoing and shore-based warrant officers and extended-duty personnel.

It should be noted that the dual restriction on the amounts of pensions (both as percentages of pay rates and in absolute sums) was established over 30 years ago but is still in use. In our opinion, this is a totally unjustifiable leveling of servicemen who have occupied far from identical positions during their service in the army or navy and, consequently, received different pay rates, and also those who have different lengths of service (25 years as opposed to 45, for example). The amounts of their pensions are frequently the same, however, in effect not taking into account pay rates, length of service and other circumstances. This income-leveling is not in keeping with the principle of social justice and produces numerous complaints.

In connection with the current preparation of the draft new Law of the USSR on Pension Provisions for Workers, draft new legislation is also being developed on pension provisions for servicemen and their families. It is planned not just to improve the material situation of pensioners but also to make the amounts of pensions set for servicemen more dependent upon the personal labor contribution made by each—in other words, upon length of service and pay rates.

A certain portion of the servicemen are being discharged from active military duty without achieving the full length of service (25 years). This is particularly typical during the period of reduction of the Armed Forces of the USSR. The law therefore provides for allotting pensions for length of service between 20 and 25 years. This right is extended to officers discharged from active military duty for reasons of age or illness or due to manning reductions or health restrictions and to seagoing and shore-based warrant officers and extended-duty personnel discharged after having served out the prescribed period and reached the maximum age for active military duty, because it is impossible to use them as result of the organizational measures being implemented, for reasons of illness or health restrictions. Pensions for length of service between 20 and 25 years are not designated for servicemen discharged on other grounds—for service incompatibility, for example, or for the commission of acts which discredit the title of serviceman.

With respect to the right to a pension for serving between 20 and 25 years, it should be pointed out that in accordance with previous normative enactments, this pension was designated for servicemen who had reached the age of 40 years by the date of their discharge and for those discharged directly from flight status or service on submarines or minesweepers, regardless of age. On 31 March 1989 the USSR Council of Ministers passed the decree "On Pension Provisions for Servicemen Who Do Not Have the Full Length of Service and Are Discharged from the Soviet Army and Navy Due to the Reduction of the Armed Forces of the USSR." It specifies that officers, seagoing and shore-based warrant officers and extended-duty personnel discharged into the reserve or retirement due to the reduction of the Armed Forces of the USSR are entitled to a pension for length of service of 20 years or more, regardless of the serviceman's age on the date of his discharge.

Pensions for length of service between 20 and 25 years are allotted in the following amounts: 40% for 20 years of service and 3% of the pay rate for each additional year of service, but not to exceed 50% of the pay rate—that is, no larger than the pension presently allotted for serving 25 years. Before this decree was passed pensions for serving from 20 to 25 years were allotted for servicemen in the amount of 30% of their pay rate; 40% for those who had reached the age of 50 years by the date of their discharge. The amount of the pension did not depend upon the specific amount of time served by each serviceman but were the same for serving 20 years or 24 years. Now, however, in addition to allotting a pension for serving from 20 to 25 years, regardless of the age of the serviceman on the date of his discharge from active military duty, the amounts of these pensions are differentiated according to length of time served.

This decree applies also to officers called up from the reserve after completing civilian higher educational institutions and serving at least 20 years by the date of their discharge from active military duty. Length of

civilian employment is taken into account for allotting pensions for these servicemen who have reached the age of 50 years by the date of their discharge: 40% of their pay rate (instead of the previous 30%) for those who have a total length of employment of at least 25 calendar years, 12.5 years of which must have consisted of military service; 45% of the pay rate (instead of the previous 40%) for those with a total length of employment of at least 30 calendar years, 15 of which must have been in the military service. The fact should be stressed that pensions for serving from 20 to 25 years and pensions which take into account length of civilian employment are allotted under this procedure for those servicemen whose discharge orders were signed after 20 March 1989.

One might want to know what is to become of the pensions previously allotted for discharged servicemen for the same length of service but in smaller amounts. A pension in the amount of 30% of the pay rate for serving 24 years, for example. Can the amount of this pension now be increased?

For now I can say only that the new legislation being worked out on pension provisions for servicemen and their families calls for extending the procedure for allotting and calculating pensions for servicemen discharged as a result of the reduction of the Armed Forces of the USSR also to servicemen previously discharged from active military duty.

And so, a serviceman earns the right to a pension from the USSR Ministry of Defense for having served at least 20 years (calculated by the calendar or taking into account individual periods of service under special, advantageous conditions). The law does not provide for allotting pensions for individuals lacking this length of service. Social security agencies allot old-age pensions for these servicemen when they reach the prescribed age. Active military duty is applied to the total length of employment for an old-age pension.

[Question] How are disability pensions allotted and how is the amount calculated?—retired servicemen S. Stepanenko (Odessa), A. Makoyan (settlement of Ilskiy, Krasnodar Kray) and others.

[Bay] Servicemen determined by a disability medical commission (VTEK) following their discharge from active military duty to be disabled as a result of a wound, injury or illness suffered at the front or in the performance of other military service or an illness suffered in the military service not at the front are entitled to a disability pension. The amount of the disability pension depends upon the pay rate received by the serviceman, the category of disability (I, II, III) and the causes.

As previously noted, disability medical commissions [VTEK] under the social security agencies are charged with determining the category and the causes of a disability and when necessary, the time of its onset, for citizens, including servicemen discharged from active military duty, for illness, health restrictions or other

grounds. Under the existing statute servicemen discharged for reasons of illness and not entitled to a pension for length of service are sent by the military commissariat for certification to a VTEK to determine the category of disability and consequently, their entitlement to a pension. All other servicemen discharged from the military service, as well as the members of families of deceased servicemen (military pensioners), are sent to a VTEK for certification at their own request; in all cases when this is essential to determine entitlement to a pension or to benefits established for the disabled.

In recent years the amount of the disability pensions allocated for servicemen, primarily disabled war veterans, have repeatedly been increased. At the present time the minimum pension is 195 rubles for officers with disabilities in category I suffered at the front or in the performance of other military duties; 180 rubles per month for seagoing and shore-based warrant officers and extended-duty personnel. The amounts are 140 and 120 rubles respectively for those with category II disabilities with the above-mentioned causes.

We must not fail to point out that in many cases extremely low pensions are designated for servicemen with disabilities. The minimum pension is 70 rubles for officers with category III disabilities suffered at the front; 55 rubles for seagoing and shore-based warrant officers and extended-duty personnel; 40 and 35 rubles respectively for disabilities in category III suffered as a result of an illness contracted while in the military service.

[Question] What is the procedure for allotting pensions for the families of servicemen? How is the amount of such pensions calculated?—S. Bobr (Novorossiysk), M. Tuvysheva (Simferopol) and others.

[Bay] Pensions for loss of breadwinner are designated for non-able-bodied dependents of the serviceman. Non-able-bodied parents and children of a serviceman who have lost their source of livelihood, as well as the non-able-bodied wife and parents if the serviceman was killed or died while serving in the active army or died later as a result of a wound, injury or maiming suffered at the front, are entitled to a pension whether or not they were his dependents.

The law specifies the following procedure for calculating the amounts of pensions for loss of breadwinner: 25% of the pay rate of the breadwinner for one non-able-bodied family member; 55% of a pay rate of up to 240 rubles for two non-able-bodied family members; 35% of a pay rate of more than 240 rubles, but no less than 132 rubles per month; 60% of a pay rate of up to 225 rubles for three or more non-able-bodied family members, and 45% of a pay rate of more than 225 rubles, but no less than 135 rubles per month, for three or more non-able-bodied family members.

The pension is calculated by the above procedure and increased by 20% for the families of servicemen who died or were killed while serving in active military units

or as a result of a wound, injury or maiming suffered in the performance of other military duties, as well as the families of deceased military pensioners who were disabled under the same circumstances.

It must be pointed out that the present minimum pensions for loss of breadwinner for the families of servicemen are totally out of conformity with the modern standard of living and in many cases are considerably below the minimal subsistence income. The minimum pension for each non-able-bodied member of the family of a serviceman who died at the front or in the performance of other military duties is 55 rubles per month, while the minimum pension for the families of servicemen who have died of various diseases is 50 rubles per month for each non-able-bodied family member, 72 rubles for two and 102 rubles per month for three or more. The minimum pension for the parents and wives of servicemen who were killed was set at 70 rubles per month on 1 October 1989.

The same can be said of the maximum pensions established for the families of servicemen. The pension for the family of a captain who died in the performance of his military duty may never exceed 150 rubles per month, for example. It is not rare in this situation for a serviceman's family who has lost its breadwinner and consists of five members (three minor children and non-able-bodied parents), for example, actually to receive a pension of 30 rubles per month for each of them.

[Question] What is the procedure for the payment of pensions from the USSR Ministry of Defense to pensioners who have begun working?—reserve officers L. Sokolov (Chernigov), I. Zarubin (Gorkiy), N. Krasnov (Dedovsk, Moscow Oblast) and others.

[Bay] Under current law full pensions—that is, which do not consider earnings—are paid to servicemen with categories I and II disabilities and to families of servicemen who have lost their breadwinner.

Pensioned officers who take jobs are paid the pension for length of service also with category III disabilities stemming from the military service, but earnings are taken into account—that is, they are paid an amount which, added to the earnings, does not exceed the pay rate paid the serviceman based on position, military rank and incremental percentage for length of service as an officer; for employed pensioned seagoing and shore-based warrant officers and extended-duty personnel the "ceiling" is the amount of pay on the basis of which the pension was calculated. Furthermore, working, ex-military pensioners always retain at least 50% of their pension.

The procedure for paying pensions to pensioned ex-servicemen is therefore more advantageous than the existing procedure for the payment of old-age pensions designated by social security agencies. The general rule is that old-age pensions are paid to working pensioners in an amount which, together with earnings, does not

exceed 150 rubles per month. In reality this means that in most cases the old-age pension is halted when the pensioner takes a job.

It should also be stated that in a number of cases the law provides for the payment of pensions on advantageous terms: the full amount, which, together with wages, amounts to more than 300 rubles per month. Pensions are paid under these advantageous terms to pensioners performing blue-collar jobs or serving as foremen (including production training foremen), work superintendents, middle and junior personnel at public health facilities, doctors at preventive medicine facilities, teachers in rural general education schools and in other positions included on the list contained in Decree No. 862 passed by the USSR Council of Ministers on 11 September 1979. This benefit applies both to pensioners receiving pensions allotted by social security agencies and to those receiving old-age pensions from the USSR Ministry of Defense. This benefit is actually enjoyed by those servicemen (mainly seagoing and shore-based warrant officers and extended-duty personnel) whose pensions are based on a pay rate of less than 300 rubles.

Under the law pensions for length of service are paid without taking earnings into account in certain cases. Pensioned officers working as military instructors in secondary general education schools, at secondary special educational institutions and training facilities within the vocational and technical education system, as directors or assistant directors and instructors—platoon commanders in special boarding schools with intensive Russian language study and military physical education and at special boarding schools with initial flight training receive the full amount of the pension, for example. Pensions are paid under the same procedure to ex-servicemen permanently employed as blue-collared workers on sovkhozes, on poultry farms and at other state agricultural enterprises.

The income of members of production and other cooperatives and income from self-employment are not taken into account for the payment of pensions. The total earnings taken into account for the payment of these pensions does not include any type of monetary bonuses, one-time incentive payments, the value of uniforms and food issued to workers in certain professions, and certain other incomes. As of January 1982 full pensions have been paid to pensioners with blue-collar jobs and working as foremen at enterprises and organizations located in Moscow, without taking their earnings into account.

Under the law passed by the USSR Supreme Soviet on 1 August 1989, effective 1 January 1990 this entitlement to full pensions will be extended to all pensioners holding blue-collar jobs or working as foremen, regardless of their place of residence or place of work, and to all pensioners receiving disability pensions. Measures to further improve the existing pension payment procedure specified in the new legislation on pension provisions for

workers presently being developed will also help to enhance the material incentives of pensioners to engage in publicly useful labor.

And now, something about the rates taken into account for calculating pensions for servicemen and their families. Pensions allotted for officers for length of service and for disability are calculated on the basis of their pay for the T/O position held prior to discharge (with the addition of 20 rubles to replace food allowances) and military rank.

Pensions for seagoing and shore-based warrant officers are based on their pay rates for the T/O position held prior to discharge, with an increase of 20 rubles to replace food allowances, and their military rank, and pensions for extended-duty personnel are based on the pay rate for their last T/O position, with an increase of 20 rubles to replace food allowances.

With respect to the families of servicemen who have lost their breadwinner, the pensions designated for them are as a general rule based on the same pay rates as those used for calculating pensions for the servicemen themselves.

The pay rates actually paid to the serviceman are taken into account for determining the amount of pensions in all of the above cases. A serviceman's promotion to the next military rank while in the reserve or a change in pay scales following their discharge from active military duty do not constitute a basis for revising pensions already designated for them.

It would also be a good thing briefly to describe the organization and the extent of the work performed in the provision of pensions within the USSR Ministry of Defense and in the agencies performing the work.

All of the work involved in providing pensions for servicemen and their families within the USSR Ministry of Defense is performed by the military commissariats and the finance services of the military districts. The Central Finance Directorate is charged with exercising overall supervision and monitoring the work involved in the provision of pensions.

The main jobs of the rayon (or city) military commissariats in this area are the following: filling out documents necessary for the allotment of pensions and benefits, assisting discharged servicemen and the families of servicemen who have died with the prompt certification by disability certification commissions (VTEK), keeping personal files on pensioners, helping them to obtain their established benefits, seeing to it that pensioners receive their proper pensions, taking into account their earnings and other circumstances, performing explanatory work, and others.

For information on filling out the papers necessary to receive a pension a serviceman discharged into the reserve (retirement) should see the rayon (or city) military commissariat for his place of residence, which will

help him fill out the documents and submit them to the oblast military commissariat for allotting a pension.

Republic, kray, oblast and the Moscow, Leningrad and Kiev city military commissariats are charged with allotting the pensions and benefits specified by the law for servicemen and their families, seeing to it that the proper pensions are paid to pensioners from the USSR Ministry of Defense by establishments of the USSR Savings Bank, overseeing and monitoring the work of rayon (or city) military commissariats and conducting explanatory and educational work with pensioners.

Upon receiving the proper documents from the rayon military commissariats these military commissariats allot the prescribed pension for the serviceman or the family of a serviceman, make up a pension file and send authorization for payment of the designated pension to an establishment of the USSR Savings Bank at the pensioner's place of residence.

The military commissariat also specifies one-time aid in cases specified by the law on the allotment of pensions for the families of servicemen which have lost their breadwinner. A pension certification is issued to a serviceman (or the family of a serviceman which has lost its breadwinner) by the oblast military commissariat as proof of entitlement to a pension from the USSR Ministry of Defense.

The finance services of the military districts together with personnel agencies make the arrangements and perform the work involved in calculating length of service for pensions for servicemen discharged from active military duty. They are charged with overseeing and monitoring the work of republic, kray and oblast military commissariats in the area of pensions, exchanging know-how, providing the military commissariats with practical assistance and reviewing written requests pertaining to pensions. And naturally, with the placement, training and education of officers and white-collar employees working in the field of pensions for servicemen and their families. A good knowledge of the people in each area is an extremely important requirement for the successful accomplishment of the jobs assigned them.

The following data give an idea of the extent of the work performed by military commissariats and finance services of the military districts in the area of pensions. At the present time 1.18 million people are receiving pensions allotted by the USSR Ministry of Defense, 832,000 of which receive pensions for length of service, 111,000 for disabilities and 237,000 for loss of breadwinner.

We should add to this the fact that the military commissariats (they have extremely modest staffs, and the position of pension worker is not included in the T/Os in most rayon and city military commissariats) also work on a daily basis to study the living and personal service conditions of pensioners, primarily the disabled and the families of dead servicemen, provide them with essential assistance and see to it that the disabled, war veterans,

veterans of the army and navy and the families of those who have died receive the benefits specified for them. In order to accomplish all of these jobs the military commissariats maintain close working ties with local party and soviet organs and rely on the aid committees (or groups) set up in the military commissariats and on active assistance from the community of pensioners themselves.

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Uzbek Council of Ministers' Provisions for Afghan Vets

90UM0095C Tashkent KOMSOMOLETS
UZBEKISTANA in Russian 17 Oct 89 p 2

[Decree of the Uzbek SSR Council of Ministers, the Uzbek Republic Trade Union Council and the Uzbek Komsomol Central Committee "On Steps to Further Improve the Social and Living Conditions of Those Who Performed Their International Duty in the Republic of Afghanistan and Their Families"]

[Text] Republic soviet, trade union, Komsomol and other public organizations have performed a significant amount of work to improve the financial, housing and pension support and medical, cultural and personal service facilities for soldiers of the Soviet Army who performed their international duty in the Republic of Afghanistan. Many former soldiers have been provided with housing and jobs, are continuing their education and taking part in public life and in the military-patriotic indoctrination of school children and the youth. Various kinds of organizations for the soldier/internationalists have been developed in the republic. Around 80 clubs and 170 councils of reserve soldiers have been set up. At the same time state administrative agencies and the committees of trade unions take a formal and bureaucratic approach to satisfying the social and personal service needs of former soldiers and the families of deceased servicemen. The system of public organizations for soldier/internationalists and reserve soldiers has not been brought to completion.

In order to perfect and improve the work of establishing for the soldier/internationalists and the families of those who died conditions conducive to their active participation in labor and public life, to accelerate their social and labor rehabilitation, improve their pensions and medical services and to assist with the establishment of a well-structured and effective system of public organizations for the soldier/internationalists and reserve soldiers, the Uzbek SSR Council of Ministers, the Uzbek Republic Trade Union Council and the Uzbek Komsomol Central Committee decree:

1. that measures be approved to further improve living conditions and resolve the social problems of soldier/internationalists and the families of servicemen who died in the Republic of Afghanistan;

—that personal responsibility for implementation of the measures be assigned to the deputy chairman of the Council of Ministers of the Karakalpak ASSR and the oblast, city and rayon executive committees of the soviets of people's deputies, the secretaries of oblast soviets and chairmen of oblast trade union committees, directors and chairmen of trade union committees of enterprises, organizations, establishments, kolkhozes, sovkhozes and educational institutions;

2. that the military commissariat of the Uzbek SSR, jointly with the Uzbek Republic Trade Union Council and the Central Committee of the Komsomol of Uzbekistan and other pertinent organizations are to prepare and submit to the Uzbek SSR Council of Ministers by 25 October of this year proposals for holding in the fourth quarter of this year a constituent conference for establishing an international-patriotic movement association.

Measures to Further Improve the Living Conditions and Resolve the Social Problems of soldier/Internationalists and the Families of Servicemen who Died in the Republic of Afghanistan

1. that by the end of the 5-year period, at the recommendation of the councils of reserve soldiers, housing and plots of land are to be allocated for the soldier/internationalists, with priority given to the disabled and the families of those who died;

2. that the executive committees of local soviets of people's deputies are to include representatives of the councils of reserve soldiers on the commissions for distributing housing and allocating plots of land;

3. that bank loans and construction materials for building private homes are to be provided on a priority basis for the soldier/internationalists and the families of those who died; the Uzbek SSR Savings Bank is to specify in requisitions the need for credit to cover loans for this purpose in accordance with Statute No. 2;

4. that, in accordance with Decree No. 989 passed by the USSR Council of Ministers on 9 August 1988 and Decree No. 302 passed by the Uzbek SSR Council of Ministers on 29 August 1988, personal pensions are to be established for disabled soldier/internationalists and the members of their families on the republic or local level in the following amounts:

—160 rubles per month for disabled servicemen in category I, 150 rubles for those in category II and 110 rubles for those in category III, regardless of their length of employment;

—pensions for the mothers of servicemen killed who have reached the age of 50 years in the amounts of the pensions they would receive upon loss of the breadwinner through the social security agencies from the USSR Ministry of Defense, but no less than 80 rubles; pensions for those who have reached the age of 55 not below those to which they are entitled in accordance with the law on pension provisions;

- for the mothers and wives of disabled servicemen in categories I and II who require daily care and have reached the pension age of 55 years, a personal pension established under the terms specified for allotting such pensions for personal merit, taking into account the disability category of the fightingman/internationalist;
- a pension for loss of breadwinner for the children of servicemen who died in the performance of their international duty of at least 60 rubles for each child;
- 5. that doctors and mid-level medical workers as well as attendant nurses from the Uzbek SSR Red Crest Society be assigned to disabled individuals in the first category, the state of their health be regularly monitored, rehabilitation treatment be provided and arrangements made for medicine be delivered to them at home;
- 6. that the trade union committees are charged with the following:
 - a) authorizing special trips for treatment and vacations for working soldier/internationalists on a priority basis; paying for their round-trip transportation to sanitariums for those issued treatment authorizations;
 - b) that full payment for medical certifications be instituted for soldier/internationalists, regardless of how long they have worked;
 - c) that free special diets be provided at the job or training site for soldier/internationalists for whom this is prescribed for reasons of health;
- 7. that an annual free trip to a sanitarium (based on the conclusion of a medical establishment) each year for disabled servicemen who performed their international duty in the Republic of Afghanistan and are receiving personal republic pensions;
- 8. that provisions be made for the treatment and rehabilitation of soldier/internationalists at hospitals for disabled Great Patriotic War veterans, at general hospitals and scientific research institutes and at centers for restorative therapy of the republic and the Union
- 9. that a 50% discount is to be given on medicine prescribed by doctors for soldier/internationalists and the children of the disabled, and free medicine for disabled soldiers and the parents and wives of those who died;
- 10. that consideration be given to the matter of special financing (invalyuta) for the acquisition of equipment and technology for producing prostheses for disabled soldier/internationalists and Great Patriotic War veterans;
- 11. that disabled soldier/internationalists and the families of servicemen who were killed or died in the course of performing their international duty in the Republic of Afghanistan be exempted from paying for their children's keep at preschool facilities and boarding schools;
- 12. that the trade service benefits for Great Patriotic War disabled and veterans be extended to cover disabled soldier/internationalists and the families of servicemen who were killed or who died as a result of a wound, injury, maiming or disease suffered in the fulfillment of their international duty;
- 13. that the right to free transportation on all types of urban passenger transport (with the exception of taxis) and on general purpose motor transport (with the exception of taxis) in rural areas within the borders of the administrative rayon in which they reside be extended to the soldier/internationalists, with remuneration to be paid by the enterprise or organization where they work for the total amount actually spent (out of material incentives or estimated savings);
- 14. that consideration be given to the possibility of increasing the list of illnesses entitling the disabled to special motor transport services;
- 15. that a joint session of the presidiums of the Uzbek SSR Council of Ministers and the Uzbek Republic Trade Union Council review progress in the fulfillment of Decree No. 446 "On the Establishment of Restorative Therapy Centers for soldier/Internationalists" passed by the Uzbek SSR Council of Ministers on 30 November 1988;
- 16. that a list be compiled of the unemployed soldier/internationalists and immediate steps be taken to find jobs for them, including increasing opportunities for cooperative and individual work and for working at home;
- 17. that members of the councils of reserve soldiers be included on the acceptance commissions for educational institutions; that the acceptance of students from among the soldier/internationalists be increased at VUZs in the field of "Initial Military Training and Physical Education Instructor" at the Fergana and Bukhara teachers' institutes to 300 slots at each.
- 18. that soldier/internationalists be added to the toponymic commissions;
- 19. that a constituent conference of soldier/internationalists and reserve soldiers be arranged for and conducted to establish a republic international-patriotic movement association;
- 20. that a Memorial Day be held for the fallen soldier/internationalists within the framework of the All-Union Memorial Watch; that it be commemorated by laying flowers on the graves of soldier/internationalists, by visiting the disabled, organizing meetings and concerts, and other activities;
- 21. that provisions be made for the large-scale publication of the pamphlet "Benefits for Soldier/Internationalists" in the Russian and Uzbek languages;

22. that, at the request of the Uzbek Komsomol Central Committee and the republic military commissariat, provisions be made for publishing information on the combat feats and the biographical data of soldier/internationalists born in the Uzbek SSR.

1984 Figures Shown For Soviet Military Presence in Estonia

*18150118 Tallinn NOORTE HAAL in Estonian
31 Oct 89 p 3*

[Unattributed article: "There Were 122,480 Soviet Military Personnel in Estonia in 1984, Says Independent Weekly ESTONIAN EXPRESS"]

[Text] Arnold Rüütel, do you as the president of the Estonian republic really not know the total of troops stationed here? This is the question we asked him during the first intermission.

"I really don't know what to tell you, I'm afraid I have to pass on this one."

You mean you couldn't even tell how many voters there are?

"That's true, and this is why I have just made the proposal that four deputies from the military be named to the Estonian Supreme Soviet, one from each branch. This way they can see, hear and know what's going on in Estonia."

"Have you not even been interested in how much military presence there is in Estonia?"

"I think that this will have to be known exactly in the future. And obviously we'll have to reach the point where the Supreme Soviet will be in total charge of the military. Right now, as you can see, we have not reached that point."

NOORTE HAAL 6 October, 1989

The last EESTI EKSPRESS clarified the issue for the very first time in the journalistic history of back-home Estonia. Based on the publication called the Relief Center For Estonian Prisoners of Conscience in the USSR, Stockholm, 1984, the following table was published.

| TALLINN | |
|--|-------|
| Navy | 5,000 |
| Border guard | 3,000 |
| KGB special troops | 1,200 |
| Ministry of the Interior special troops | 1,300 |
| Tank units (Männiku, Odra, Liiva, Raudalu) | 1,500 |
| Harbor defense troops | 500 |
| Transport and mechanized units | 420 |
| Railroad units | 420 |

| TALLINN (Continued) | |
|---|--------|
| Mine harbor | 420 |
| Music and sports detachment at Järve-Tondi | 210 |
| Engineering troops | 600 |
| Work battalions | 3,000 |
| Base at Lasnamäe | 210 |
| Units at Veskimetsa | 100 |
| Special troops at Rocca al Mare | 300 |
| Other units | 1,500 |
| TOTAL | 19,680 |
| Navy and other units on Naissaare | 5,000 |
| TOTAL FOR TALLINN AND ITS SURROUNDING AREAS | 24,680 |

| OTHER LOCATIONS | |
|---|--------|
| Klooga (tank base, engineering units) | 2,200 |
| Vasalemma (air field) | 1,500 |
| Keila-Joa (base) | 600 |
| Island of Prangli (border guard unit) | 200 |
| Islands of Pakri (border guard unit) | 300 |
| Island of Vormsi (border guard unit) | 100 |
| Hiumaa (rocket base, border guard units, work battalions) | 3,000 |
| Saaremaa (amphibious landing units, special units in Dejevo and other bases, air fields in Kaisvere-Vints and Sõmera-Karida, fighter pilots and border guard units) | 5,510 |
| Other islands (border guard units) | 1,000 |
| Paldiski (navy, air force, fighter pilot tank units, work battalions, other units). Bases for submarines (also for nuclear submarines) and other warships | 25,000 |
| Haapsalu (air force, fighter pilots, other forces; two air fields, one of them underground) | 4,500 |
| Pärnu region (tank units, air force, transport units, work battalions) | 6,000 |
| Lihula (air field) | 1,000 |
| Rummu, near Vasalemma (guard units for labor camps) | 150 |
| Aegviidu (rocket base) | 1,200 |
| Kunda (rocket base, air field at Vainupea, border guard units etc.) | 2,000 |
| Toila (border guard unit) | 200 |
| Letipea (border guard unit) | 100 |
| Narva (border guard and other units) | 1,000 |
| Kohtla-Järve (tank units, strategic artillery troops, transport units, air field in Kahula, and other) | 3,500 |
| Sillamäe (guard units for uranium mines) | 1,000 |
| Vääna-Jõesuu (air field and other) | 500 |
| Loksa (border guard and other units) | 800 |
| Tapa (communications troops, railroad battalions, air field and other) radio and sonar detection devices | 4,500 |
| Suurupi (strategic artillery troops) | 200 |

OTHER LOCATIONS (Continued)

| | |
|--|----------------|
| Viljandi (air landing troops, attack flight brigades, mechanized units) | 3,500 |
| Paide region (engineering and other troops) | 2,500 |
| Viljandi region (rocket and other bases) | 1,200 |
| Rapla (engineering troops) | 300 |
| Rakvere region (engineering troops, work battalions and other) | 2,000 |
| Kuusiku (air field) | 500 |
| Adavere, roughly 12 km north of Põltsamaa (underground air field) | 800 |
| Koigi-Nurmsi (air field) | 300 |
| Mustla, roughly 6 km south of Mustla (air field) | 420 |
| Võhma (air field) | 500 |
| Tooma (air field at Mustjõe) | 420 |
| Sauga (air field) | 600 |
| Jõgeva region (engineering troops, work battalions and other) | 1,000 |
| Tartu region (rocket batteries, air field, communications troops, work battalions and other) | 9,000 |
| Põlva region (engineering troops, work battalions) | 1,200 |
| Võru region (tank units, artillery units, air force, mechanized units and others) | 3,500 |
| Valga region (rocket batteries, air field, railroad battalions and other) | 4,000 |
| Total at Other locations | 97,800 |
| TOTAL SOVIET FORCES IN ESTONIA | 122,480 |
| Family members of Soviet occupational forces | 25,000 |
| Total of Soviet occupational forces and their families in Estonia | 147,480 |

* * *

Located in Estonia, according to data published in Stockholm five years ago, were about 30 warships and 12 submarines; 22 military and six civilian and reserve air fields with a total of 350 planes; and six tank bases with a total of approximately 300 tanks.

In 1989 we can estimate the number of troops stationed in Estonia back in 1984. When do we find out the status for today?

NOORTE HAAL Political Department

Summary of Letters to KRASNAYA ZVEZDA

90UM0151A Moscow KRASNAYA ZVEZDA in Russian
1 Dec 89 First Edition p 1

[Article by KRASNAYA ZVEZDA correspondent Captain 3rd Rank V. Yermolin in the column: "Reading November's Mail": "The Spectrum of Pluralism"]

[Text] Mail received by the editors is so varied that if one were to permit himself to be influenced by the letters he would arrive at completely contradictory conclusions.

For example, V. Yushkov, a teacher in Sochi, feels that the problem of interethnic relations could be resolved as follows: Abolish republics, autonomous okrugs, and other units and divide the entire territory of the USSR into 200 or so regions. Pensioner V. Chernyshev of Vologodsk suggests something else—immediate exclusion of a number of republics from the USSR. Also featuring an irreconcilable "look" are letters from S. Semenov of Pochinok in Smolensk Oblast and A. Peshenkov of Kommunarsk. The former maintains that the Army has virtually gone to pieces and that "the officer corps has become completely indifferent to their duties." The latter refuses to admit the possibility of any shortcomings in our Armed Forces.

The fighting mood—Not a single inch!—is typical of many letters. Holding fast to their extreme views, the writers roundly reproach KRASNAYA ZVEZDA for indecision and excessive caution in cases where only the cavalry charge applies. In this regard, the same tone is expressed with rare exceptions in mail arriving from Azerbaijan and Armenia. While demanding that journalists exercise greater objectivity and tact in their treatment of problems dealing with their people, writers in those republics at the same time insist on highly critical evaluation of the other side (R. Mustafayev—Baku; S. Shakaryants—Yerevan; and others).

What is sad is not the arguments themselves, but the absolute conviction of rightness and scope of views held by the writers. One rarely sees any doubts, reflections, or the use of the subjunctive mood in the mail typical of the present. On the other hand, there is a large amount of extreme views and accusatory statements. It is possible that the writers are increasingly concerned with problems that are close to home.

"I gave more than 40 years of my life to the Army," writes Vasilii Maksimovich Popel from Leningrad. "I first put on my military uniform in 1934, and I am proud of it to this very day. I practically never wore civilian clothes (which I did not even own for a long time). I was always proud of my uniform and my belonging to our Army. I notice that nowadays many officers and even military school cadets cannot wait to change into 'civies.' Why? Because to be in military service today means being in a somewhat awkward situation." The veteran's letter is in tune with a letter received from A. Pavlichkov, a military school cadet. He writes: "I was serving my flight tour of duty in the Lvov area. That was where I was called an occupier for the first time. Not everyone showed hostility to us, of course; there were those who were nice, but what was disturbing was seeing draft-age youth behave like hooligans."

It should be mentioned that a considerable number of our readers finds the causes of the ugly treatment afforded the Army in the mass information media. For instance, consider what Reserve Colonel B. Sudarov has to say: "There is much description of the Army and Navy in our newspapers, magazines, television, and

radio. This is only to the good. On the other hand, I am disturbed by the facile manner in which some journalists make generalizations."

I identify with those journalists who state: "The Army is a living body, one which is diversified in its activities. Attempts to paint it in only one color—be it rose or dark—always take us away from the truth (M. Trebin—Moscow; S. Zhigaltsev—Groznyy; Yu. Chilimkin—Primorskiy Kray; and others). I can add to balance the light and the darkness that erudition by itself is insufficient. You must know the Army from the inside if you are to make judgments about it. This is shown most convincingly by letters written by servicemen themselves: "I am surprised and disturbed when I hear statements like 'We do not need service in the Soviet Army!'" "Who will look out for the safety of Armenians in the Army?" asks Petty Officer 1st Class N. Sugyan. "I am about to be discharged into the reserves, and I tell you without hesitating that in 3 years of service no one ever made any derogatory statements to me about my being an Armenian. I have nothing but nice things to say about my comrades and commanders."

Continuing in the same vein, acknowledging the Army for teaching lessons of friendship, there are letters from Sergeants A. Khafizov and T. Boltayev; Privates A. Kozlov, K. Chtepov, and T. Dadiani; and others. "It was hard," recalls Siberian V. Shtundiyuk from his years of service. "I got into 'hot water,' went without enough sleep, froze, got wet and exhausted. Nonetheless, thanks to the Army for everything!" What compels people to write such letters to the editors? Much—something someone who has never served can only guess at.

However, it seems that there are many young people today who are quite satisfied to "gain some idea" of what the Army and Navy are like on the sole basis of reading books and newspaper articles and watching films. "It alarms and pains me to no end when I read newspaper accounts of the problems associated with service induction of youths in the Baltics, Azerbaijan, Georgia, Armenia," writes Lev Aleksandrovich Dostupov from Chernigov. "I can just imagine the kinds of fresh recruits commanders will have to put up with and how they will be forced to lose time reeducating these 'protectors of the Motherland.'"

Let us not rush to conclusions: There were cases of draft evasion this fall, and they were not isolated, but thousands of young persons poured into the ranks of the Armed Forces from the republics named in the above letter. One can only hope that these boys enjoy a successful tour of duty from the day they start. The fact that there is a growing chorus of voices of those who believe it more advantageous to serve within the confines of their own republic is another matter.

Articles dealing with the above subject drew a lively response from KRASNAYA ZVEZDA readers. Letters from mothers constitute a considerable share of this kind of mail. "I have two sons," writes A. Solovyeva from

Furmanov in Ivanovo Oblast. "It so happens that both of them are serving in far-off places. I would feel much better about it if my sons were closer to home, of course. But there is the law, and no one has repealed it yet. That means that is must be obeyed. If someone violates it, he should be prosecuted to the full extent. We always lend that particular argument. And so it happens that our sons are serving honorably while others are sitting home with impunity." The writer's views are supported by signatures that unfortunately lack initials: Smirnova, Semyenova, Repina, and others.

Here is another letter. The writer is B. Kalinina of Berezniki in Perm Oblast. "My son was studying in an institute," writes Vera Semenovna. "but I convinced him that this year—a time of difficulty for the country and the Army—it was more honorable to report to the induction station on his own to carry out his constitutional duty. He is now in NCO school and will do border duty, possibly in one of the southern republics. His letters tell me how everything there is grave and difficult."

Some people may think it strange that a mother would convince her own son to leave an institute to join the Army. However, I have a greater understanding of how that woman thinks and feels than I do of what motivates mothers that do not let their sons report to the military commissariat, by so doing talking them into committing a crime. Just as I understand Chelyabinsk resident Dmitriy Mokin when he honestly admits that he is "not a fanatic who aspires to a military career." He is in a peaceful line of work—he works for the railroad—and he says that this fall he is going to serve but "not with a burning desire and great joy." Further on, Dmitriy tells us: "If everyone tries to get out of being drafted, then what will happen to us?" As long as we have lads in our country capable of asking questions like that, as long as there are conscientious people willing to demonstrate their patriotism in deeds, we have reason to entertain hopes for the future.

Departmental Barriers to Development of Rescue Equipment

90UM0151B Moscow KRASNAYA ZVEZDA in Russian 1 Dec 89 First Edition p 2

[Letter to the editors by Colonel S. Klyuchnik: "How to Rescue the Rescuers"]

[Text] Dear Editors!

KRASNAYA ZVEZDA has been paying a great deal of attention to problems of saving the lives of people caught in life-threatening situations. However, it is most unfortunate that the newspaper is dealing with the problem in a one-sided manner. You must have noticed this yourselves, judging by the comments written in response to the latest article, dated 8 October 1989 ("Time to Rescue the Rescuers").

I am the immediate supervisor of the "helmeteers" of which you write. I have been involved with rescue activities for about 10 years; I have met representatives of all departments associated with saving the lives of people. I would like to draw on my experience to discuss a major problem, one that if unresolved will render it impossible to carry out search-and-rescue activities.

That problem is interdepartmental compartmentalization. With all that has been written and spoken about it, it would seem that nothing more could be said. Nevertheless, departmental approaches are evident in your article. Colonel G. Nazarenko stresses physical training for rescuers, since he is serving in the Institute of Physical Culture. Colonel Ye. Zhivov in his comments on the article, which sheds light on only a few shortcomings of the Navy's Search-and-Rescue Service, also attempts to downgrade the seriousness of the matter. It must be realized that the events cited in the article occurred long before the personnel aboard the "Komsomolets" lost their lives. In reality, the Navy still lacks equipment capable of rescuing people with a sea state of 3 or 4; not a word is mentioned about this. No one is working on this problem, even though there is in the Ministry of the Aviation Industry an enterprise that is responsible for developing rescue equipment.

Another instance of interdepartmental confusion is the implementation of launching devices used with a helicopter (Su-R) that are mentioned in the article. They were developed by the RSFSR Ministry of Forestry. So much departmental red tape is impeding the use of this equipment by the Air Force and the Navy that it will be a long time before helicopters will be provided with them.

Departmental confusion has been the cause since 1981 of failure to series-produce rescue capsule KASK-500, which is superior in design to the one that was dropped to the crew of the "Komsomolets."

Another negative role played by interdepartmental compartmentalization comes through clearly. Various departments, taking advantage of the awakening of interest in rescue problems, are attempting to set up their own search-and-rescue forces and centers. Thus, the newspaper PRAVDA for 31 August 1989 published a photo report on rescuers from the Ministry of Civil Aviation. The report makes it clear that the ministry uses the Mi-8 helicopter to rescue people. This craft is completely unsuitable for that purpose! Even the rescue equipment, purchased with foreign currency, leaves something to be desired.

We must utilize the sad experience of the last few years to organize a powerful extradepartmental search-and-rescue service that includes personnel trained to work under totally unexpected conditions; one provided with the latest equipment. I am firmly convinced that it is necessary to combine all the search-and-rescue forces and capabilities and place them under the State Commission of the Council of Ministers for Emergency Situations.

I suggest that the first piece of action to be taken be the creation of a working group at that commission that would include representatives from all interested departments; they would be given two months to submit suggestions dealing with the problem. The next act should be convening a conference for authorized representatives from the various departments for the purpose of resolving organizational problems.

There should be a search-and-rescue service active in our enormous country; one that would be capable of rendering assistance to persons caught in any extraordinary, nonstandard situations, a time when fire, emergency medical and militia services are powerless to do so.

Gareyev, Makarov Promoted

90UM0107A Moscow KRASNAYA ZVEZDA in Russian
16 Nov 89 First Edition p 1

[Unattributed report: "Decree of the USSR Supreme Soviet Presidium Awards Military Promotions"]

[Text] The presidium of the USSR Supreme Soviet hereby issues a decree promoting: Colonel General Makhmut Akhmetovich Gareyev to the rank of ARMY GENERAL; and Admiral Konstantin Valentinovich Makarov to the rank of ADMIRAL OF THE FLEET.

M. Gorbachev
Chairman, USSR Supreme Soviet
Moscow, The Kremlin 14 November 1989

Makhmut Akhmetovich Gareyev was born in 1923 into a worker's family. He is of Tatar origin. His service in the Soviet Army dates from 1941. He graduated from the Military Academy imeni M. V. Frunze and the Military Academy of the USSR Armed Forces General Staff imeni K. Ye. Voroshilov. After having served as commander of a motorized rifle division and a tank division, he was appointed chief of staff of an army, then of a military district. Since 1974 he has served as chief of the Military Science Directorate of the General Staff and deputy chief of a main directorate of the General Staff; in 1984 he was designated a deputy chief of the USSR Armed Forces General Staff. He holds the degree of doctor of military sciences.

Konstantin Valentinovich Makarov, of Russian origin, was born on 18 June 1931 in the town of Tikhoretsk, Krasnodarskiy Kray, into a laborer's family. In 1953 he was admitted to the Naval School of Submarine Navigation. He graduated from the Naval Academy imeni Marshal of the Soviet Union A. A. Grechko in 1967, and from the Military Academy of the General Staff, as an external student, in 1985. He subsequently served in a number of positions aboard submarines and as a staff officer in combined units (soyedineniya) and directorates of the Navy. He was commander of the Baltic Fleet. Since December 1985 he has served as chief of the Main Staff of the Navy and as first deputy commander in chief of the Navy.

General Specifications of BTR-50PU Command Track

90A10083A Moscow VOYENNNYYE ZNANIYA in
Russian No 6, Jun 89 p 16

[Article by Col (Res) V. Knyazkov: "BTR-50PU Command and Staff Vehicle"]

[Text] The art of command and control and assurance of its reliability and continuity has played a major role in military affairs at all times. The BTR-50PU command and staff vehicle, created on the basis of the tracked amphibious APC, helps accomplish this mission in modern combat.

It has three compartments—driving, staff, and engine. The first and second compartments are outfitted with special gear and devices and 10 seats: four for the commander and staff, four for the radio operators, and two for the vehicle commander (navigator) and driver. In addition, the staff compartment accommodates a collapsible table for working with maps and documents, a small table for the commander, two hammocks for resting and three ladders. Three boarding hatches have been "cut" into the APC. A rotating cupola is installed there as well, and there is a light port closed from within by an armored cover. There is an emergency exit hatch in the floor of the driving compartment. The ceiling and walls of manned compartments have a layer of glued-on thermal insulation (foam plastic and povinol).

Some BTR-50PU equipment is mounted on the outside—infrared searchlight, four whip antennas, an 11-meter telescopic mast, battery charger, armored box for a fuel drum, and three boxes with spare parts, tools and accessories.

It is truly said that without information there is no command and control, and stable communications is needed for this. This is why the command and staff vehicle has an entire set of radio, radio relay and wire equipment on board.

We will mention the R-112 radio above all. It is a transceiver and operates in a telephone-telegraph mode. The effective radius is 20-25 km by telephone and up to 50 km by telegraph when operating on the four-meter whip antenna. Communication capabilities increase if the radio is connected to the eleven-meter telescopic antenna. Then it is possible to reach a subscriber located a considerable distance away: up to 40 km by telephone and up to 100 km by telegraph. The R-113 radio is a radiotelephone transceiver with an effective radius of 12-20 km when operating on a four-meter whip antenna. The R-105U is a radiotelephone transceiver with power amplifier. It has a large range: its effective communication radius is 20 km using a four-meter whip antenna and 45 km using the antenna mounted on the eleven-meter telescopic mast.

The communications center also includes an R-403BM two-channel radio relay telephone half-set. Its capabilities are approximately the very same as for the R-105U.

The BTR-50PU crew also has a 10-line field telephone switchboard, four telephone sets and four reels, each with 600 m of two-wire cable. The R-120 tank intercom is for internal communications among crew members.

There is remote control of radios from telephone sets. That situation is possible when the commander decides to set up an observation post located no more than 600 m from the vehicle. Another seven external subscribers can be connected to the wire switchboard when working at the halt.

Since the BTR-50PU is a unique headquarters on wheels, its maneuver characteristics must meet rigid requirements of modern combined-arms combat. Let us examine the vehicle's specifications and performance characteristics from this standpoint: weight 14.3 tons, length 7,070 mm, width 3,140 mm, height 2,050 mm, average ground pressure 0.5 kg(f)/cm². The BTR-50PU can move along a dirt road at a speed of 20-25 km/hr, over a cobblestone highway at 30-35 km/hr, and over a concrete highway at up to 45 km/hr. Maximum speed afloat is 10 km/hr. Range when moving along a dirt road is 180-210 km, over a cobblestone highway 240-260 km, and afloat up to 60-70 km.

The vehicle's off-road capability is rather high: maximum angle of climb over dry turfy soil is 38°, with the heeling angle not to exceed 18°. Obstacles negotiated include a ditch or trench up to 2.8 m wide and a vertical wall with a maximum height of 1.1 m. Water entrance angle from the bank is 30° and exit angle is 25°.

All these characteristics are provided by sophisticated propelling devices (wheeled running gear and water jets) and by the power plant, a 240 hp six-cylinder liquid-cooled airless-injection diesel engine.

The BTR-50PU crew will perform assigned missions confidently day and night in any weather conditions on varying terrain, which is supported by nine vision devices.

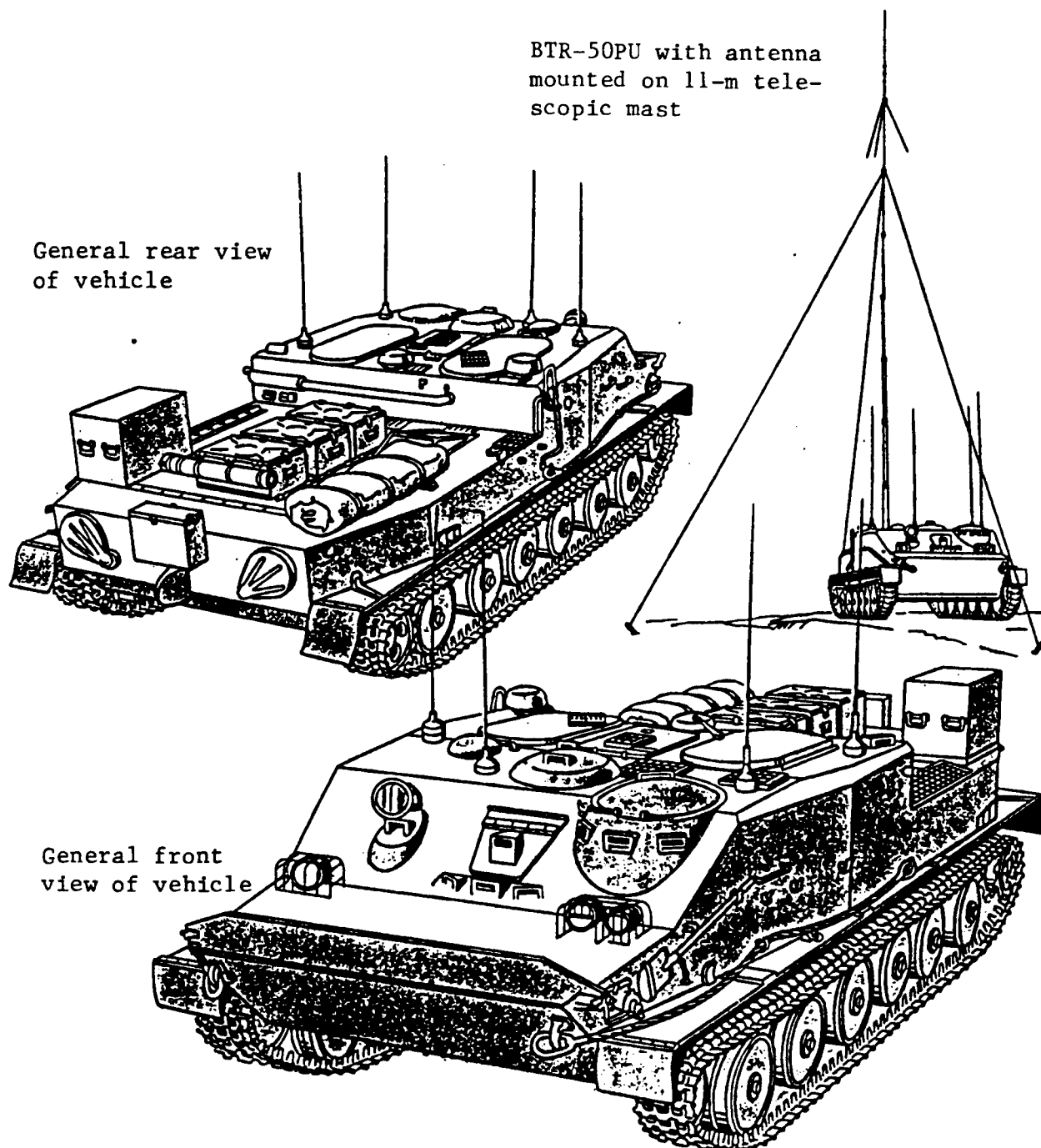
A gyro course indicator and course plotter are the basis of the navigation gear. The first indicates the vehicle's course and the second plots it in a rectangular coordinate system. It operates automatically: the data recorder pen traces the path covered on a map. The data source for this instrument is a path sensor functioning on the principle of an automobile speedometer. A computer continuously works out the moving vehicle's coordinates. The error in accuracy of determining coordinates is no more than 1.5 percent of the path covered.

In addition, a reusable smoke generation apparatus (TDA [thermal smoke apparatus]) operating on the power plant's diesel fuel is mounted on the BTR-50PU. It is used for laying a smoke screen 300-400 m long with a persistence of up to two minutes.

As we see, the command and staff vehicle fully justifies its designation. This mobile command and control facility provides prompt, reliable direction of subordinate subunits under modern combat conditions.

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BTR-50PU Command and Staff Vehicle



Discussion of Soviet Armor Museum

90A10083B Moscow VOYENNYE ZNANIYA in Russian No 9, Sep 89 pp 18-19

[Article by military journalist Maj S. Roshchin: "Soviet Tanks: Yesterday and Today"]

[Text] *There are many museums on Earth, each one unique in its own way, but among them are even truly "super-unique" ones with exhibits the likes of which you will never see anywhere else. The editors propose that you, respected readers, take a kind of tour through one such museum, the Armor Museum. Our tour guide is military journalist Maj S. Roshchin and he has the floor.*

The museum is relatively young. It opened 10 September 1972, but it has the world's largest and most diverse collection of tracked and wheeled combat vehicles. More than 250 models of armored equipment, both Soviet and foreign (10 countries), have been assembled in its seven pavilions. Let us familiarize ourselves with the most extensive division of the exposition (four pavilions), devoted to the origin and development of Soviet tank construction.

It is symbolic that a pedestal-mounted mockup of the firstborn of Soviet tank construction, the "Fighter for Freedom Comrade Lenin," opens the museum. The history of this vehicle's creation is interesting. Tanks were not produced in Russia in World War I, nor did the Russian Army receive them from the Allies. During the Civil War Red Army men captured several dozen British and French Ricardo, Taylor and Renault tanks from the Whites, which later were included in special heavy tank detachments.

It was decided to organize our own tank production in 1919 at V. I. Lenin's suggestion. The French Renault M17 tank (this model is in the exhibit) was used as a prototype to shorten the time necessary for the vehicle's design, construction and operational development. Production was assigned to the collective of the Sormovo plant, which at that time had sufficiently qualified cadres and the necessary technological equipment. Assistance was given by Petrograd and Moscow enterprises, which manufactured armor plate and the engine. Despite the enormous difficulties, the first Soviet tank was manufactured in a record short time of eight months (a total of 15 were produced). Although our firstborn was called the "Russian Renault," it differed substantially from the French prototype. The turret and engine were different and the armament and armor were more powerful.

The T-18 tank, later called the MS (Small Close-Support)-1 and intended for infantry close support, was created in the latter half of the 1920's. Much in its design was borrowed from the "Fighter for Freedom Comrade Lenin" tank. Production of these vehicles began in 1928 and a total of 900 of them were built. For a long time it was believed that not one MS had been preserved to our days, but recently Far East Military District military personnel found and restored three such tanks, thereby

re-establishing one of the remarkable pages in the history of Soviet tank construction.

In the 1930's Soviet military specialists already had fully formed views on questions of employing tanks, and tasks were assigned to designers and the country's young tank industry based on this. The USSR RVS [Revolutionary Military Council] decree on the system of RKKA [Workers' and Peasants Red Army] armored vehicle armament advanced the requirement to create a tank fleet which would include tankettes, light and medium tanks, and armored cars. Tankettes and light tanks saw especially rapid development in this period.

In the museum exposition, for example, we will see the T-27 tankette (2.7 tons, 7.62-mm machinegun, speed 40 km/hr, crew of two) used for reconnaissance and communications. Designed on the basis of series-produced motor vehicle machine units, it became the world's first armored vehicle to be transported by air by the TB-3 bomber. The T-37 amphibious tank was the only 1930's model with redundant control. In addition, it had a propeller with rotating blades and also could be carried by a bomber and be landed on the water. The T-38 tank was created on its basis.

The T-26 tank designed in 1931 by the collective of the Experimental Design Machinebuilding Department (OKMO) headed by S. Ginzburg was our Army's basic tank for a long time. It was modernized repeatedly and in the final account its weight almost doubled compared with the initial model. At first the vehicle was produced in a two-turret version. A 76-mm short-barreled gun was mounted on it in 1934, the running gear was reinforced in 1936, and a conical welded turret was added in 1939. It can be said without exaggeration that the T-26 played the role of a unique mobile laboratory in Soviet tank construction of the 1930's.

Welding-on of armor plates, their placement at rational angles of inclination, shielding of the sides, and installation of an antiaircraft machinegun were tried out on it. The TOS [stabilized tank sight] with built-in gyroscope that stabilized the line of sight was used for the first time. The OT-130 flamethrower tank equipped with a pneumatic flamethrower and a smoke generation system was created on the basis of this vehicle.

The BT-2 and BT-5 wheeled/tracked tanks are situated nearby. These vehicles, developed by the Kharkov plant KB [design bureau] in which well-known designers A. Morozov, N. Kucherenko and M. Tarshinov developed, had high speed characteristics and could move on tracks or on wheeled running gear. They are protected by armor capable of defeating small-arms fire, which for those times was fully justified. The first domestic tank diesel, the V-2, was tested on one of the first vehicles of this family.

The T-26 and the BT (the BT-7 had the following specifications and performance characteristics: 13.8 tons, 45 mm gun, two 7.62-mm machineguns, speed 52 km/hr, speed on wheels 72 km/hr, crew of three) lived a

long life. They pounded Japanese invaders at Lake Khasan and on the Khalkhin-Gol River, fought in Spain, took part in the Soviet-Finnish War, and withstood the fascist armored armada in 1941.

Generating interest among the light vehicles in addition to those mentioned are the T-30, T-40 and T-60 tanks with 20-mm automatic guns and the T-70 and T-80, distinguished by the original configuration of two tandem engines. The museum exposition presents the T-50 and T-126 among the experimental light tanks created in the prewar period. They had no equal at that time in armor protection, armament and maneuverability. Suffice it to say, for example, that the T-126 had the very same armor and engine as the T-34 medium tank. After the war the "family" of Soviet tanks was augmented by the amphibious PT-76, PT-76B and PT-76M.

The medium tanks represent the largest collection in the museum. It is opened by the legendary T-34 developed under the direction of M. Koshkin, A. Morozov and N. Kucherenko. In speaking of this vehicle one has to use the words "for the first time" often. The T-34 is the first series-produced medium tank with armor designed to defeat artillery projectiles. Its hull was welded from 45-mm rolled armor plate placed at rational angles of inclination. The L-11 76.2-mm gun was installed in the turret. The T-34 also had two machineguns. The V-2 domestic diesel engine permitted the vehicle to develop a speed up to 55 km/hr. The large-diameter dual road wheels were rubber-covered. Individual coil-spring suspension was used for the first time.

In creating the tank the designers provided a large weight reserve, which permitted modernizing it repeatedly. Hull armor protection was considerably reinforced (to 52 mm), a new cast turret was installed and the gun was changed twice. The last version of the T-34 was armed with an 85-mm gun and weighed 30.9 tons, while its dynamic characteristics remained the same. This vehicle had no equal up to the end of World War II. Its configuration became classic, and it was not by chance that the tank was copied by many foreign designers.

The T-44 tank represents an intermediate model between the T-34 and T-54. An engine and transmission were placed transversely to the hull for the first time, which considerably increased the volume of the fighting compartment. Subsequently this permitted installing a turret with the more powerful 100-mm gun—that is how the T-54 tank originated. In general, the path of improvement of the turret shape, a search for rational accommodation of hull machineguns, and the sequence of introducing weapon stabilizers can be clearly traced in the models of this family.

Further development of this direction of Soviet tank construction is represented by the experimental and series models of the T-55 and T-62 medium tanks (see figure on back cover [figure not reproduced]). Some are equipped with a fume extraction system for purging the

barrel, with mechanized battle stowage, and with automated transmission control drives; they have different versions of the design execution of suspensions and tracked propulsion; and they have other assemblies and systems (in particular, a system of horizontal and vertical gun stabilization). The T-62 was armed for the first time with a smoothbore gun, which permits firing a subcaliber projectile with high muzzle velocity and a maximum range of aimed fire up to 4 km, and other kinds of projectiles. A laser rangefinder was installed in the turret.

Finally we see the modern T-64 and T-72 series vehicles (see figure on back cover [figure not reproduced]), tanks of a new generation which differ substantially from preceding models. For example, ballistic instruments on the T-72 permit automatically inputting the following parameters to aiming devices: range to target, kind of ammunition, air temperature and humidity, and so on. The T-72 has an electromechanical loader, which permitted reducing the crew by one person while preserving a high effective rate of fire (6 rounds per minute).

The creation of heavy armored vehicles is one more vivid page in the history of Soviet tank construction. The first of them is the T-35. It was produced beginning in 1933, had five turrets and was intended for reinforcing troops when penetrating heavily fortified defensive zones. The tank was employed in fighting of the initial period of the Great Patriotic War.

The new direction in constructing heavy tanks is a transition to the creation of single-turret, thick-armor vehicles. The KV, designed in 1939 at the Kirov plant in Leningrad by a collective directed by Zh. Kotin, is the first in this series. This was the most powerful tank at the beginning of World War II. Its armor successfully withstood fascist artillery. Instances are known where KV tanks would emerge from a fight unharmed, each with several dozen dents from enemy projectiles.

Many new technical solutions also were used in creating the KV: individual torsion-bar suspension, driving wheels with replaceable hubs, and planetary final reduction gears were used for the first time. The V-2K diesel engine was a more powerful modification of the V-2.

Tanks with the IS mark came to replace the KV. There are both series as well as experimental models. The last of them is the 70-ton IS-7, which had no equal in this class for armor protection, firepower and maneuverability. In addition, soft protected fuel tanks were used on it for the first time.

The T-10 was the last heavy domestic tank. Essentially all its modifications are represented in the museum. Some have a hydromechanical transmission and tank weapon stabilizer.

The museum exposition graphically illustrates not only the history of the formation and development of

domestic tank construction, but also its high level and in many cases also indisputable superiority over foreign tank construction.

Photograph captions, back cover:

T-62 tank: Combat weight 37 tons; armament: 115-mm smoothbore gun, 7.62-mm and 12.7-mm anti-aircraft machineguns; maximum speed 50 km/hr; crew of four.

T-72 tank: Combat weight 41 tons; armament: 125-mm smoothbore gun, 7.62-mm and 12.7-mm anti-aircraft machineguns; maximum speed 60 km/hr; crew of three.

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T-72 Night Vision Equipment Inspection

90A10095A Moscow *TEKHNICA I VOORUZHENIYE*
in Russian No 9, Sep 89 pp 10-11

[Report by Lieutenant Colonel A. Sapronov]

[Text] Before starting to inspect the operational condition of the equipment, ensure that they are firmly secured in the proper places and fully equipped with the ZIP [spare parts, tools and accessories kits] and the operation and servicing documents. Look over the equipment and ensure that the cases do not have any holes, cracks, or deep dents. The prisms and the protective glass should not have any chips, cracks, or other physical damage. If defects are observed, repair or replace the equipment.

The inspection of the operational condition of the TVNE-4E driver's observation device is carried out in the following manner. First, turn on the lighting in the driver's compartment and cover the door of the panel lamp of the control equipment. Make sure that the shutter and the diaphragm are in "Closed" position. Then set the outer diaphragm on the top of the equipment with the apertures open (on "Sunny" position). Turn on the equipment by turning the handle of the shutter to the right and, looking in the eyepieces, gradually open the diaphragm. If visibility in the equipment is insufficient, open the larger apertures in the external diaphragm ("Cloudy" position). The equipment should work steadily, without flashing or flickering, and the screen should be lit with a greenish light. Otherwise, replace it.

At night the operational condition of the equipment is examined in similar fashion, but without the outer diaphragm. Under conditions of low illumination turn on the FG-125 headlight. The operational readiness of the headlight may be judged by thermal emission.

Check the correspondence of the optical center lines of the equipment and the headlight only at night. Situate the tank on a level area. Put some object 35 meters away on its longitudinal axis. Then turn on the equipment and the headlight. The center of the circle of light, which is

observed through the left eyepiece of the equipment, should coincide with the base of the object.

Before inspecting the TKN-3 equipment and its illuminator, make certain that the handles of the shutter and diaphragm are in "Closed" position and then move the equipment away from any bright source of light and set the handle for switching the mirror to position N. Turn on the "AZR Hatch" switch on the right switchboard of the turret, and then the equipment. Smoothly move the handles of the shutter and the diaphragm into "Open" position until a greenish luminescence with a representation of the terrain in front of the tank appears in the field of vision of the equipment. Remember that the equipment must not be operated for more than 30 seconds. When the inspection is finished, turn off the equipment and move the handles of the shutter and diaphragm to "Closed" position and the handle for switching the mirror to position D. The operational readiness of the illuminator may be judged by thermal emission after the protective cover has been taken off it. At night the equipment is inspected in similar fashion, but the shutter and the diaphragm are opened fully.

In order to examine the alignment of the TKN-3 equipment, situate the tank on a level area without any list to the side. Position a reference target in front of it at 25 meters from the muzzle of the barrel. Glue crosshairs made of black threads on the muzzle of the barrel using the marks, take the firing pin from the block of the breech mechanism, and lock the commander's hatch in position to observe forward. With the aid of the manual aiming drive system, align the crosshairs on the muzzle of the barrel of the main gun, visible through the aperture for the striking end of the firing pin in the block of the breech mechanism, over the crosshairs for the main gun on the target. The vertical mark of the crosshairs, visible through the eyepieces of the equipment, should coincide with the corresponding crosshairs on the target. If they do not coincide it is necessary to adjust the equipment, turning it together with the flange of the mounting.

The correspondence of the optical center lines of the TKN-3 equipment and its illuminator may be checked using a reference target or an object located 300-400 meters from the tank. Turn on the equipment, direct the center of its field of vision at the appropriate crosshairs on the target, and lock it. Then turn off the equipment, take the light filter off the illuminator, and turn it on. The light should fall symmetrically with respect to the crosshairs for the illuminator on the target. If there are variations, it is necessary to adjust the illuminator. In the vertical plane this is achieved by changing the length of the brace of its drive system, and in the horizontal plane by transferring the illuminator to the oval apertures of the pivot. The inspection is carried out in similar fashion when using a distant object, but the center of the light should coincide with the base of the object.

The operational condition of the TPN-1 sight and its illuminator are evaluated at night by switching it on and

observing the terrain through the eyepiece. In daytime, turn on the sight and open the diaphragm somewhat until a representation of the terrain appears in the field of vision in a greenish light. The operational condition of the illuminator is judged by thermal emission.

The zero line of the sight is aligned using a distant point on the terrain or an alignment target located at 25 meters from the muzzle of the main gun's barrel. Situate the tank on a level area. Then set the rangefinder sight for a distance of 1100 meters and set the ballistics switch in the "Br." position. Aim the central gunsight pipper dot of the rangefinder sight at a point 1100 meters away. Turn on the power unit. Set the diaphragm of the night sight so that the aiming point is clearly visible and, looking into the eyepiece, examine the position of the upper end of the large vertical line relative to it. It should coincide with that same aiming point, which is also the central gunsight pipper dot of the rangefinder sight. The check is conducted with the aid of the sight's alignment mechanism.

When the target is used, check the alignment after pasting crosshairs made of black threads on the muzzle of the barrel according to the marks. Aim them at the corresponding mark on the target. Then turn on the power unit and set the diaphragm of the sight so that clear visibility of the marks on the target is guaranteed. Make sure that the top of the upper line coincides with the appropriate mark on the target. The ballistics switch on the rangefinder sight should be in the "Br." position and the distance set at zero.

Check the correspondence of the optical center lines of the night sight and its illuminator using the reference target placed at a distance of 25 meters from the muzzle of the main gun's barrel. Turn on the power supply and aim the gunsight center pipper dot at the appropriate mark on the target. Close the diaphragm and take the light filter off the illuminator. Then turn it on. The light should fall symmetrically respective to the appropriate mark on the target. If necessary, align by height (with the aid of the screws on the brace) and by bearing (with the bolts securing the position of the bracket relative to the base).

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Charging Fire Extinguisher Cylinders

90A10095B Moscow TEKHNKA I VOORUZHENIYE
in Russian No 9, Sep 89 p 11

[Article by Lieutenant Colonel S. Nedzelskiy and N. Dedov, Soviet Army civilian employee]

[Text] Fire extinguisher cylinders may be charged with a fire-extinguishing compound and compressed nitrogen using the PZUS-P field charging station. Also needed are

an RS-250-58 reducing valve (400/100 kgf/cm²) and tubing to join the transport cylinder to the "CO₂ Input" connection on the control panel. Use the tubing to attach the reducing valve to the connector mounted in place of a sealing bolt at the first stage of the compressor.

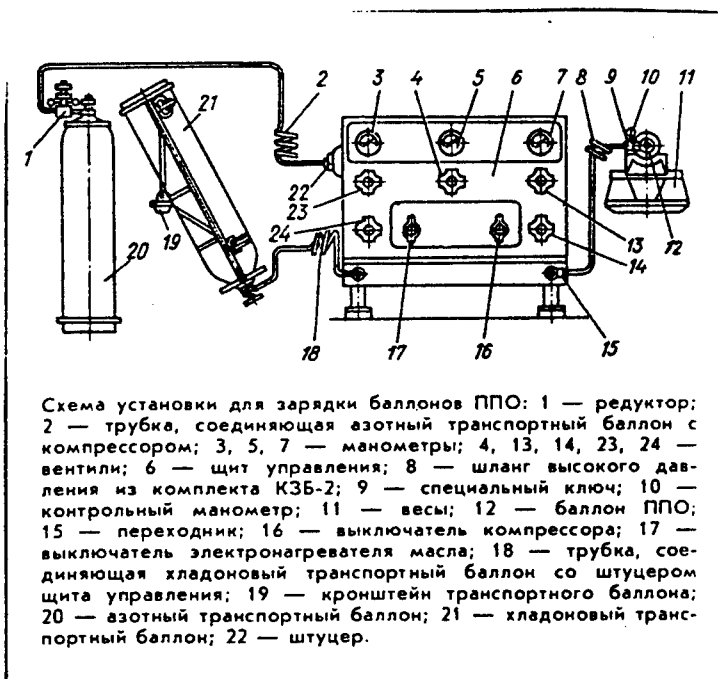
The diagram for charging fire extinguisher cylinders is altered somewhat (see the picture). Three operations are carried out in succession: Pressurizing the fire-extinguishing compound in the transport cylinder with compressed nitrogen; filling the fire extinguisher cylinder which is being charged; and adding nitrogen to create the necessary pressure in the cylinder being charged.

To pressurize the fire-extinguishing compound, open valve 13 on the station's control panel and the valve on transport cylinder 21. Then determine the pressure in it using gauge 3 on the control panel. If the pressure is less than 30 kgf/cm², open the valve on transport cylinder 20 and, with the aid of reducing valve 1, set the pressure according to its gauge at 20 kgf/cm². Then turn on the compressor's electric motor. Upon reaching a pressure of 30 kgf/cm² on gauge 7 of the control panel, open valve 4. When pressure has reached 30 kgf/cm² on gauge 3, close valve 4, turn off the compressor's electric motor, and close the valves on the storage cylinders with the compressed nitrogen and the fire-extinguishing compound. Then open valve 14, pouring off the condensate from the compressor's oil separator, and reduce pressure to 0 on gauge 7 of the control panel. Close valves 14 and 13. Make certain that the pressure in the transport cylinder with the fire-extinguishing compound does not exceed 30 kgf/cm².

The fire extinguisher cylinder is filled with the fire-extinguishing compound in the following manner.

First loosen the charging connector of the cylinder to be charged 1-2 turns with the aid of the special key and set it on the balance. Determine the mass of the cylinder together with the special key and high-pressure hose 8. Then move the balance weight on the arm to the number corresponding to the mass of the charge as indicated on the body of the cylinder. Open the valve on transport cylinder 21 and valve 4 on the station's control panel, and fill the cylinder with a portion of fire-extinguishing compound until the weights are in equilibrium. Close valve 4. Tighten the charging connector of the fire extinguisher cylinder with the special key. If the weights do not reach equilibrium in the course of 10 minutes of charging (the mass of the compound in the cylinder being charged does not reach the indicated quantity), then it is necessary to close valve 4, open valve 13 on the control panel and the valve on the transport cylinder with the compressed nitrogen, create a pressure of 20 kgf/cm² with the aid of the reducing valve, and turn on the compressor. Upon reaching a pressure of 45 kgf/cm² on gauge 7, turn off the compressor.

Diagram for Charging Fire Extinguisher Cylinders



Key:

- 1 - reducing valve
- 2 - tubing connecting the nitrogen transport cylinder to the compressor
- 3, 5, 7 - pressure gauges
- 4, 13, 14, 23, 24 - valves
- 6 - control panel
- 8 - high-pressure hose from KZB-2 assembly
- 9 - special key
- 10 - reference gauge
- 11 - balance
- 12 - fire extinguisher cylinder
- 15 - adapter
- 16 - compressor power switch
- 17 - power switch for the electric oil heater
- 18 - tubing connecting the khladon transport cylinder to the control panel connector
- 19 - transport cylinder bracket
- 20 - nitrogen transport cylinder
- 21 - khladon transport cylinder
- 22 - connector.

| Air Temperature, °C | Pressure in Cylinder Being Charged, kgf/cm ² |
|---------------------|---|
| -30 | 45 |
| -20 | 48 |
| -10 | 51 |
| 0 | 55 |
| 10 | 62 |
| 20 | 70 |
| 30 | 76 |
| 40 | 85 |
| 50 | 96 |

After filling the cylinder, tighten its connector and close all the valves on the control panel and transport cylinders. Open valve 14 and pour off the condensate, reducing the pressure to zero. Close valve 14 and then detach the charged fire extinguisher cylinder from the high-pressure hose and the special key and weigh it once more. Write the result in the journal. If the mass of the charge exceeds the number indicated on the body of the cylinder, it is necessary to release part of the compound using the charging connector.

In order to add compressed nitrogen to the fire extinguisher cylinder, it is necessary to connect the special key to its cap and screw the high-pressure hose from the

KZB-2 attachment assembly onto its connector. Then open valve 13 on the control panel and the valve on the transport cylinder with the compressed nitrogen and, with the aid of reducing valve 1, create a pressure of 20 kgf/cm² according to its gauge. Turn on the compressor. Upon reaching a pressure of 50 kgf/cm² according to gauge 7, loosen the charging connector of the fire extinguisher cylinder and charge it with compressed nitrogen until the pressure begins to exceed the values in the table by 5-10 kgf/cm². There should be no difference between the readings on gauge 5 and the reference gauge on the special key. Then turn the compressor off and tighten the charging connector of the cylinder. Afterwards, tip the cylinder from vertical to horizontal position and back 10-15 times. Having shaken it up in this fashion, check the pressure of the mixture. If, according to the reference gauge on the special key, it is less than the value in the table, add compressed nitrogen. Then detach the cylinder from the charging station and check that its cap is airtight by holding it underwater for 2-3 minutes.

Write the mass on the body of the cylinder and then screw the cover onto the charging connector and seal it.

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Operating Inspection of T-72

90A10083C Moscow *TEKHNICA I VOORUZHENIYE*
in Russian No 10, Oct 89 pp 8-9

[Article by Maj V. Solovyev and Capt V. Sokolov]

[Text] This inspection is performed before every departure of the tank from the motor pool and at halts to check the vehicle's readiness for movement or operation. The inspection's operations are performed by all crew members, who are obligated to have a firm knowledge of and strictly comply with safety measures. An operating inspection before departure takes 18-20 minutes and at halts it takes 10-15 minutes.

Before the tank leaves the motor pool, first make sure covers and plugs are present in the tank hull and there are protective covers on the muzzle and breech ends of the gun and on the machinegun port, and check the bulldozer blade's attachment in a traveling position and the condition of running gear assemblies. Then check to see that power plant and transmission systems are filled with operating fluids. The fluid level in the engine cooling system must be no lower than the lower ends of overflow pipes of the radiator and expansion tank filler mouths.

Check the amount of oil in the engine lubrication system using the dip stick. The tank holds 65 liters full and the minimum permissible amount is 20 liters. A 27 mm S wrench is used in both cases.

Serviceability of signalling gear (with engine off) and monitoring and measuring instruments is checked in the driving compartment. The signalling gear is located basically on the dash and on the driver's remote panel.

First be sure that the "Water-Antifreeze" switch is in the position corresponding to the kind of coolant being used and that the "TDA [thermal smoke apparatus]-BTsN [not further identified; type of pump]" switch and the "TDA" and "Water Pump" circuit breakers (or AZR [relay breakers]) are off. Check the onboard electrical supply system from the monitoring and measuring instruments located on the driver's panel. It should be within the 22-26 volt range (based on voltammeter readings).

The firefighting equipment (PPO) system is checked with the battery switch (VB) on and the "PPO-OPVT [tank equipment for underwater driving]" switch on the P11-5 panel in the "PPO" position. Lights 1B, 2B and 3B, which signal the presence of voltage in the system and serviceability of PPO pyrotechnic cartridge circuits, should be burning dimly.

After this, placing the fuel level indicator switch in the appropriate position and from its readings determine the amount of fuel in the left and right internal fuel tanks. Check serviceability of corresponding electric circuits by successively pressing the "Indicator Lights Check" buttons. The following lights should go on: "VO [air cleaner]" (clogged air cleaner) and "Commander's Call" on the driver's panel; "Engine Rpm," "Brake," "Coolant/Fan" and "Engine Pressure" on the remote driver's panel (PV-85); and lights indicating that the gun is outside the tank's clearance.

If the "Coolant/Fan" indicator light burns dimly with the battery switch on and the "Brake" light burns dimly with engine operating (both on the remote panel), this means that the V8 relay breaker is off (and must be turned on).

To check serviceability of the indicator light and electric circuits of the gear selector automatic interlock unit, first shift the "Check-Off" toggle to the "Check" position. Then put the gear-shift lever into the appropriate slot of the selector rack in turn. The indicator light should go on and the electromagnet on the gear selector should be actuated in all gears except seventh. Determine that the gear selector is serviceably blocked from the stopping brake lock by the possibility of engaging the gear only after unlocking the brake pedal and of locking the brake pedal only after the gear selector lever is placed in neutral. If necessary, adjust the tension in the cable connecting the selector lever with the stopping brake lock arm through the adjusting fork. The "Brake" light should go out when the brake pedal is unlocked.

Check the operation of the light-braking device in the stopping brake drive. To do this press the light-braking button (in the left control lever): the "Brake" light should go on and the brake pedal should shift forward. The "Brake" light should go out with pressure on the accelerator pedal and should again go on when it returns to the initial position.

Minimum manometer air pressure in air cylinders before engine start-up is 75 kg(f)/cm². Make the following

checks in the driving compartment with engine operating. First monitor stability of engine operation at minimum idle (800 rpm) and the serviceability of monitoring and measuring instruments. In this power setting, oil pressure must be at least 2 kg(f)/cm² in the engine lubrication system and at least 0.5 kg(f)/cm² in the power transmission (determined from the manometer on the driver's panel). Oil pressure must be 5-10 kg(f)/cm² in the engine lubrication system in the engine's operational power setting (1,600-1,900 rpm). A pressure drop to 4 kg(f)/cm² is allowed after 300 engine hours of operation. A pressure increase to 12 kg(f)/cm² is allowed with an oil temperature below 55°C. Oil pressure in the power transmission lubrication system must be 2-2.5 kg(f)/cm² (a pressure drop to 1.5 kg(f)/cm² is allowed in the process of operation).

After this, check serviceability of highway signals. Appropriate front and rear side-lights and the "DS" (highway signals) indicator light on the gear selector signal panel should blink when the turn switch is placed to the right or left. Tail lights and the "DS" indicator light should blink when the stopping brake pedal or the light-braking button is pressed and the "Brake" light should go on on the remote panel.

In the tank's fighting compartment be sure that all relay breakers except for "Electric Trigger" and "Osv. AZU" [not further identified] on the left turret distribution panel and "Hatch" and "AZ-Upr" [not further identified] on the right distribution panel are on. The "Blower Signal" light should go on when the "Check Lights" button is pressed on the left distribution panel, which indicates serviceability of the blower's electric circuits. When the "Call" button is pressed on the right distribution panel the "Commander's Call" indicator light should go on on the driver's monitoring instruments panel.

Correct radio tuning is checked by successively switching the "Fixed Frequencies—Right Subband" knob to the 1, 2, 3 and 4 positions when there are four fixed frequencies and a tuned antenna for each of the frequencies. The accuracy of a given frequency setting is monitored according to maximum brightness of the neon bulb's glow (from the indicator of current efficiency in the antenna). It also should go on when the push-to-talk chest switch is pressed in the "Transmit" position. All crew members should hear each other well regardless of

the position of the chest switch lever when switches on the A-1, A-2 and PV gear are placed in the "VS" (internal communications) position.

Check ease of autoloader conveyer rotation by cranking the manual drive for 1-2 cassettes.

In performing an operating inspection at stops or short halts, above all check the condition and attachment of illumination and signalling devices outside the tank, external stowage of spare parts, tools, accessories and authorized gear, and the presence and tightness of filler neck covers and plugs. If there are supplementary fuel tanks, check tightness of their fastening bands.

In the engine and transmission compartment (MTO) first of all drain sediment from the air system water and oil trap. To do this, turn the stop screw located on the right side of the hull near the hull rear plate clockwise one or two turns with a turret wrench. Tighten the screw after draining. Then check for leaks of operating fluids from power plant and hydraulic control assemblies and systems and for leaks of power transmission lubricant. A typical sign of a leak from engine compartment assemblies and systems is spray on the air outlet louvre grid.

In an external inspection of the running gear, be sure of the reliability of seals of the road wheels, track support rollers, driving and idler wheels and hydraulic shock absorbers. Inspect the track links and rubber masses of road wheels and check track tension. Determine the condition of hydraulic shock absorbers and the hubs of road wheels, track support rollers, and driving and idler wheels according to how warm they are (by feel). Air temperature should not exceed 70-80°C. A hydraulic shock absorber body that is cold after a run indicates its unserviceability.

Check the serviceability of indicator lights in the driving compartment and in the tank fighting compartment and serviceability of highway signals in a sequence similar to operations performed before the tank's departure.

It is advisable to distribute the full scope of the operating inspection among tank crew members for quality performance of inspections in the prescribed time.

Complete fulfillment of the above amount of work will permit keeping the tank in constant readiness for operation.

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Organization of Tactical Cooperation

90UM0113A Moscow VESTNIK

PROTIVOVOZDUSHNOY OBORONY in Russian

No 9, Sep 89 (signed to press 29 Aug 89) pp 16-19

[Article by Maj Gen F. Neupokoyev, doctor of military sciences, professor, under rubric: "Combat Training"]

[Text] The combined-arms nature of combat against today's air adversary dictated the need for constant, effective coordination of mixed air defense forces and assets in their performance of combat missions.

Units and subunits of SAM forces usually accomplish installation air defense in coordination with fighter subunits, adjacent SAM or AAA subunits, subunits of the radiotechnical troops, and EW subunits. The effectiveness of their coordination, i.e., of joint coordinated operations in the interests of achieving the engagement objective, is determined to a considerable extent by how well thought out and organized the coordination is in preparing for combat.

Fire and maneuver are the principal components of an air defense engagement, but it is impossible to execute them without prompt discovery of an attack by the probable enemy's offensive air weapons on a defended installation, without a valid situation estimate, and without accomplishing missions in support of combat operations. Therefore it is customary to consider **information, fire, and logistics coordination** to be the principal kinds of tactical coordination of air defense forces. We will dwell on the most complex kinds here.

Information coordination is organized to provide command posts [CP's] or command and control facilities of coordinating units and subunits with the fullest, promptest, and most valid information about the air adversary, the status and operations of friendly forces, and combat conditions. The basic methods of such coordination at the tactical level are the technical and structural integration of elements of coordinating subunits' information systems, co-location of CP's or command and control facilities in the interests of information support to joint combat operations, and the periodic exchange of information among CP's or command and control facilities over coordination communication channels.

Such techniques as receiving a decentralized warning about targets, receiving air situation data from the closest radar companies, creating television data transmission and reception channels, integrating subsystems of the coordinating units' automation equipment complex, and so on found wide use in implementing the information system integration method in SAM subunits and units.

The basic tasks of fire coordination are to achieve a coordinated fire effect on the air adversary and to provide mutual assistance in the interests of executing the combat mission. Fire coordination is carried out by

dispersing the fire of coordinating units or subunits against airborne targets to inflict maximum losses on the enemy, by concentrating fire on airborne targets for their sure destruction, and by providing fire cover for coordinating forces and assets when they are fighting.

Fire is dispersed by distributing it against airborne targets or by establishing a priority for the actions (or limiting the actions) of coordinating subunits or units by altitudes, sectors (areas), zones and lines. Fire or efforts are concentrated by simultaneous or successive (based on lines or time) delivery against an airborne target by coordinating units or subunits. Fire cover of coordinating forces and assets is provided by engaging groups of offensive air weapons intended for their fire suppression, preventing the air adversary's operations against them from specific areas (or from lines such as the antiradar missile launch line), and so on.

In general the variant of fire coordination of mixed air defense forces and assets that is implemented must ensure that the distribution of fire or efforts against air targets conforms to the degree of the targets' relative tactical importance.

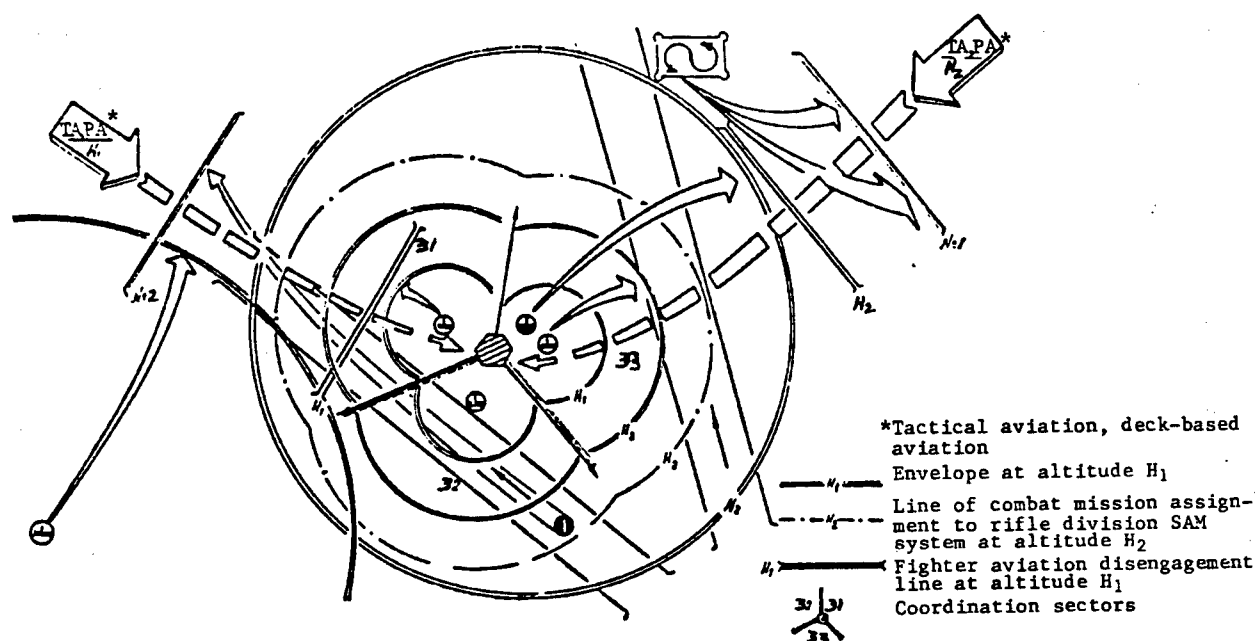
Let us detail the coordination methods and tactical procedures given above with consideration of the specifics of air defense forces.

The most difficult to resolve are problems of joint employment of units or subunits of SAM forces and fighter aviation and problems of ensuring the safety of friendly aircraft operations.

SAM forces and fighter aviation coordinate (see figure) when air defense subunits and fighters operate by zones and in one common zone.

When operating by zones, fighters destroy the air adversary without restriction outside (and if possible up to) the SAM envelope. This seemingly simple formula for coordination is very complicated from the standpoint of its practical realization. First of all, SAM force groupings include systems with different tasking and with a varying reach in range and altitude. The distance to the far boundary of the envelope of each type of SAM system changes substantially with altitude. Secondly, in order to realize the full depth of the envelope, missiles must be launched and missions must be assigned to each SAM battalion for destroying a target (or for issuing a target designation) at more distant lines (on the far boundary of the launch zone and on the far line of mission assignment to the SAM battalion). The location of these lines depends on the target's altitude as well as flight speed.

Consequently in organizing the operations of SAM and fighter aviation units by zones, the fighter area of operations is limited by SAM launch lines (or by lines for issuance of target designation to the SAM battalion), or the degree of realization of SAM unit fire capabilities is allowed to be reduced in repelling attacks by the air adversary. And thirdly, spatial characteristics not only of SAM forces' zones of fire, but also of air defense fighter



air-to-air combat have grown sharply. In addition, to preclude an interceptor's entry into the zone of fire when attacking a target from the rear hemisphere, the interceptor must begin a turn to a different heading at a certain distance from the boundaries of this zone. This distance is determined by the size of the fighter's radius of turn and by a number of other factors (possible errors in determining distance, reaction time of the pilot and GCI controller), and comprises tens of kilometers. Thus the joint operations of SAM and fighter aviation units or subunits in a space with overlapping zones and use of various coordination methods and tactical procedures are objectively necessary in accomplishing air defense missions.

Zone operations usually are established only for short and medium range SAM systems. Zone sizes are limited by the range of fire based on altitude intervals. Information coordination methods and tactical procedures are carried out to the full extent, fire coordination methods and tactical procedures (successively engaging a target by lines, preventing the launch of antiradar missiles against combat formations of air defense subunits, and so on) are partially accomplished, and safety of fighter transits of the zone of fire is ensured.

When operating in one zone (in a zone of SAM fire) the danger of erroneous delivery of fire against friendly aircraft objectively exists. Therefore realization of methods of distributing fire or efforts of coordinating SAM and fighter aviation subunits against airborne targets demands a high level of training for CP combat teams in using the technical capabilities of reconnaissance systems, in estimating the situation, in identifying airborne objects, and in controlling fire.

An erroneous SAM launch against a friendly aircraft is precluded by receipt of valid identical air situation information at the CP and at vectoring posts; by the identification and discrimination of airborne objects observed on CP displays according to nationality; by continuous maintenance of direct coordination communications; by commanders' profound knowledge of tactical capabilities and methods of employing coordinating forces and assets; and by strict compliance with established rules for operations of fighters and air defense subunits in the same zone on the part of weapon operators, tactical control officers, and pilots.

The direct identification of airborne objects by radar systems is supplemented by their indirect identification based on well-organized and well-implemented information coordination.

When it is impossible to distribute fire on targets and when established SAM installation defense is disrupted, joint combat operations by SAM and fighter aviation units are conducted by distributing their efforts in space (by altitudes, sectors, zones, lines) and in time. Initial data and variants of operations are determined in organizing coordination. They also can be established by agreement in the course of an engagement. As a rule, coordination sectors coincide with the main sectors of fire of a medium range SAM battalion.

Takeoff and landing approach corridors are specified when airfields are located in zones of fire. The corridor is oriented in the direction of the runway and its length is limited to the zone of fire. Corridors for transiting a zone of fire are designated for use by aircraft from other airfields in performing combat missions. The width of corridors depends on their purpose and on precision

characteristics of radar supporting the flights. Flight procedures for aircraft in the corridors (altitude range, speeds, and so on) are established and strictly followed.

Coordination among adjacent SAM or AAA units and subunits is organized both when their zones of fire do not overlap and especially when there is a mutual overlap of envelopes or engagement zones. In the first case a procedure is established and the possibility of an information exchange between CP's about the air situation and operations of friendly forces is ensured. In the second case the possibility of establishing a unified fire plan is analyzed and questions of fire coordination are agreed upon.

In establishing a fire plan, each battalion is assigned a primary sector of fire and a sector of responsibility at low altitudes. The primary sector is designated relative to the defended installation and specifies the sequence of destroying targets at medium and high altitudes with the SAM battalion conducting independent fire: targets are destroyed first in the primary sector of fire and at the boundary of the sector with the unit on the right.

A sector of responsibility at low altitudes is designated relative to the air defense subunit's position and indicates that in this sector that subunit must preclude passage of targets and must concentrate main efforts in repelling air attacks at extremely low and low altitudes. The procedure for dispersal and concentration of fire on airborne targets is coordinated in sectors where SAM battalion envelopes overlap. Greatest emphasis is placed on combining the fire of long range SAM systems in accomplishing various tactical missions (destroying different types of enemy offensive air weapons).

A set of measures for ensuring electromagnetic compatibility of electronic equipment is also carried out in organizing coordination with adjacent units: rational allocation of working frequencies for the operating electronic equipment; regulation of their working modes by frequencies, time and directions; frequency-spatial separation and the selection and preparation of locations (positions) for electronic equipment in which levels of unintentional interference are reduced; shielding for sources of interference and electronic equipment, and so on.

Coordination is organized by the echelon that is superior to the coordinating forces. This does not, however, preclude the need for commanders and staffs of the directly coordinating units and subunits to agree on and carry out organizational measures. Coordination is organized for subordinate subunits based on the commander's decision for combat and on the rehearsed combat plan, and it is organized with adjacent units based on operation orders and coordination instructions of the higher headquarters. To coordinate operations with adjacent units, the commander and staff must precisely know their combat missions, location, makeup of forces and assets,

capabilities, the procedure for maintaining communications and the procedure of joint operations established by the senior commander.

Work methods of the commander and staff in organizing coordination are determined by specific conditions of preparing for combat, and above all by the nature of combat missions, makeup of forces being used to accomplish them, features of the combat zone, and availability of time. **But in all cases the commander plays the leading role in organizing and maintaining coordination.** The staff supports the commander's work of organizing coordination, works up necessary documents, and sees that they are uniformly understood by coordinating subunits.

The SAM unit commander organizes coordination of subordinate SAM battalions by summoning their commanders usually to his own CP or to the CP of one of the coordinating subunits. Joint operations usually are organized in the sequence in which the fight against the probable air adversary is carried out. In this regard the following are typical phases of the battalion's combat work: reconnaissance of the air adversary; selection of targets for destruction in overlapping sectors of adjacent SAM battalion envelopes and selection of targets from a group target; concentration of fire for sure engagement of jammers as well as other important targets; and conduct of fire to screen adjacent subunits.

When there is a limited time to prepare for combat, coordination is organized **by the method of commander's instructions and subordinates' reports on the procedure of joint operations, with a run-through of the most typical tactical events in performing combat work.** Command post information displays as well as topographic maps and terrain models are used here. Special attention is given to rehearsing options in searching for targets at extremely low altitudes and under jamming conditions, and to practicing rules for selecting targets at boundaries of the primary sectors of fire and for concentrating fire in sectors of responsibility of adjacent SAM battalions. In conducting a run-through of tactical episodes, the commander listens to subordinates' decisions, updates them as necessary, and practices the procedure of joint combat work by coordinating subunits.

If there is time, possible variants of independent joint combat operations of adjacent battalions are rehearsed systematically **in practice drills of CP combat teams and in tactical exercises**, as well as in various instructional classes.

To update and detail coordination matters with adjacent units, when organizing installation air defense it is advisable to exchange excerpts from combat operations plans of coordinating units, to have their commanders and chiefs of staff meet personally at the CP to coordinate variants of operations in different situational conditions, to hold joint practice drills of CP combat teams, and to rehearse coordination methods in tactical exercises.

In all instances when organizing coordination, great emphasis is placed on developing unified rules for joint operations in a common zone, on common understanding of the rules by executing entities, on preparing the work stations of the commander and chief of staff at the CP, and on ensuring continuous maintenance of coordination communications. Initial data for implementing coordination (combat formations of adjacent units, their areas of operation, corridors for passing aircraft through the zone of fire, coordination lines and sectors, and so on) are displayed on the CP command and control equipment.

Precluding the possibility of SAM engagement of friendly aircraft is a very important task in coordinating SAM and fighter aviation units, with the success of execution of the combat mission as a whole depending on this in the final account. Ensuring the operating safety of friendly fighters and reducing their loss risk factor to zero considerably predetermine the options and methods for coordination of SAM and fighter aviation units and the content and scope of measures carried out by commander and staff in preparing for combat. Continuous information coordination is a necessary condition for accomplishing this task.

Experience shows that if coordination has been properly thought out, planned, organized, supported, and practiced in preparing for combat, then its implementation is possible under all situational conditions, with attainment of high cumulative effectiveness in executing missions of protecting installations and troops against air attack.

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Fighter, Ground Attack Aircraft Protective Equipment

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[Article based on foreign press materials by A. Tarnovskiy: "Individual Protective Equipment of Tactical Fighters and Ground Attack Aircraft"]

[Text] A tactical fighter on a combat mission is in danger of being shot down by the fire of enemy AAA, SAM systems and fighters. Depending on the nature of its mission, it may come under the fire of one, two or all of the above air defense weapons. In one instance the effectiveness of a fighter's individual protection is determined chiefly by the degree of vulnerability of the aircraft structure to hits by shells and missiles, and in another instance on-board weapons and EW gear including warning receivers, active jammers, and chaff and decoy flare dispensers are used for individual protection. The United States presently is stepping up efforts to develop inexpensive expendable decoys for use on ground attack aircraft of tactical aviation.

The foreign press reports that the modern warning system has several receiving antennas, a signal processor and cockpit display. An audio signal in the interphone headset and a light signal warn the crew that the aircraft is being irradiated by an enemy radar. More sophisticated warning systems permit accomplishing an even broader range of missions: determining the priority of identified targets, controlling chaff and decoy flare dispensing, and activating jammers.

The foreign press has announced that the F-16, the U.S. aircraft in largest numbers, is equipped with the AN/ALR-69 warning receiver (American industry has produced over 3,200 sets, and it also is installed in fighters of Western European NATO countries). The receiver has four antennas. Parameters of known enemy electronic equipment are input to the system's computer memory. Detected electronic equipment is automatically identified according to the following signs: search radar, AAA or SAM system radar, aircraft intercept radar. An alphanumeric symbol on the azimuth indicator informs the pilot of the type of radar and its location. If launch preparation is noted or a SAM already is in flight, then a pilot warning light appears on the azimuth indicator.

The azimuth indicator details five priority threats. The warning system's operating mode is set before mission departure. The AN/ALQ-119 noise and deception (repeater) jammer or the AN/ALQ-131 in a pod configuration is installed in the F-16. In addition, the fighter is equipped with the automatic AN/ALE-40 (installed in the fuselage) with two chaff and decoy flare dispenser channels (total on hand: 60 RR-70 chaff cartridges or 30 MJU-7B decoy flares). The AN/ALE-40 system operating mode is programmed before take-off to be manual or automated (after the switch-on command is received from the warning receiver). A variant of the automatic AN/ALE-40 equipped with 16 chaff and decoy flare dispenser channels is installed in the A-10A attack aircraft (overall capacity of the equipment is 480 RR-70 chaff cartridges or 480 M-206 decoy flares). The AN/ALQ-119 active jammer also is widely used on U.S. F-4 and F-111 fighters. There have been 1,600 sets of this system produced. The United States plans to produce 1,500 sets of the AN/ALQ-131 active jammer; deliveries of this gear are planned to the Netherlands, Japan, Egypt, Pakistan and Israel.

According to foreign press announcements, the AN/ALR-56 warning receiver in the U.S. F-15 fighter produces an audio signal for the pilot in case of irradiation by an enemy radar, with a simultaneous alphanumeric symbol output on the azimuth indicator. It automatically switches on the AN/ALE-45 automatic chaff and decoy flare dispenser and the AN/ALQ-135 active jammer. The latter can be actively used against electronic equipment of different types; accommodated inside the fuselage, it has four transmitting antennas providing 360° coverage. Foreign authors note that information from the warning receiver permits the pilot to promptly execute an evasive maneuver, including against enemy aircraft equipped with long-range radar.

The foreign press notes that the chaff and decoy flares are inexpensive and rather effective with skilled use, giving the fighter protection against missiles with radar and IR homing systems.

Foreign military specialists presently express the opinion that use of inexpensive expendable decoys by ground attack aircraft will permit a more effective solution to the problem of penetrating a modern air defense, reducing aircraft losses, and decreasing financial expenditures. The flight range of gliding decoys can reach 130 km when they are released from aircraft flying at high speed and low altitude with a subsequent climb. Foreign authors note that flares of this type are especially effective inasmuch as they appear on radar screens suddenly and thus can give radar operators the impression that an attack threat stems specifically from this target. If the SAM system team launches a missile against the decoy target, favorable conditions thereby are created for the strike element's penetration to the target. Relatively high flight speed can be achieved by late opening of the decoy's aerodynamic surfaces until maximum flight altitude is reached.

The U.S. firm of Brunswick developed a series of expendable aircraft decoys beginning in the early 1970's. It is known that the Maxie-150 subsonic decoy was created first (length 1.14 m, airframe diameter 0.13 m, wingspan 0.76 m, weight 59 kg). Decoy tests were conducted on the F-4 fighter, with an active jammer accommodated in the decoy. In 1974 a more sophisticated Type 290P decoy now equipped with a rocket motor (length 2.24 m, wingspan 1.4 m, weight 136 kg, flight speed Mach 0.8-0.9) successfully underwent flight tests. These two decoys did not become operational. Experience gained in designing them was used in creating a more sophisticated decoy model known as Samson-1. It has an airframe that is cylindrical in cross-section and no propulsion unit. In 1985 the U.S. Navy purchased 100 Samson-1 decoys, some of which were used for troop testing while the others were delivered to certain U.S. aircraft carriers. Production of the Samson-1 decoy under U.S. license was organized in Israel by the firm of Military Industries. The foreign press reports that Samson-1 decoys were employed by Israeli ground attack aircraft in raids on Syrian SAM system positions in the Bekaa Valley during 1982-1983. Results of an Israeli air operation in the Bekaa Valley and the Americans' own experience gained in Lebanon served as impetus for accelerating the U.S. decoy development program. A more sophisticated version of a gliding decoy designated TALD was developed based on the Samson-1. It is larger in size than the Samson-1 and has an airframe that is square in cross-section. The decoy is equipped with Luneberg lenses to increase radar cross-section and will be capable of carrying chaff. The possibility of creating a TALD decoy with propulsion unit is being examined. In 1987 the U.S. Navy ordered series production of the first lot of 1,000 TALD decoys for a total cost of \$30.5 million, including expenditures for maintenance. In the period through 1991 the U.S. Navy plans to purchase a

grand total of 5,000 TALD decoys, with the cost of one series-produced decoy estimated at \$20,000-\$25,000.

According to foreign press announcements, Brunswick is developing a small RFED radio decoy which is to fly on a ballistic trajectory after release. The decoy is to be released by conventional automatic equipment used for releasing chaff packets. The decoy weighs around 220 grams (its size is 19.7x2x2 cm). The decoy's primary purpose is to divert the threat of the aircraft's engagement by surface-to-air and air-to-air missiles with radar guidance systems. The aircraft's on-board system is designed to disrupt more than one missile attack. The decoy is equipped with a linear repeater and operates as follows. It receives a signal from an enemy radar guidance system, amplifies and then retransmits it. According to a statement by firm representatives, the decoy provides protection against radars operating in CW, pulse and pulse-Doppler emission modes and it has a self-contained power source. The decoy is created in two versions: with a Doppler emission mode for use on high-speed aircraft, and in the conventional (non-Doppler) emission mode for use on slow aircraft.

The foreign press reports that the U.S. firms of Northrop and Westinghouse developed the TAAED towed expendable decoy on a competitive basis under a U.S. Navy order. It is intended for protecting fighters against air-to-air and surface-to-air missiles with radar guidance systems. The flare has an elliptical shape, a length of 0.45 m, an airframe diameter of 6.8 cm, a weight of 4.5 kg, and it is fitted with four fins. By specification of the U.S. Navy command, the decoy is to be accommodated in the tail section of deck-based attack aircraft or in a suspended pod (six decoys per aircraft). Before the platform enters a threat area saturated with air defense weapons, a decoy is released into the aircraft's rear hemisphere on a line (which simultaneously is a power cable) 91.5 m long at the pilot's command. A deception jammer is to be installed in the decoy. The towed decoy can function in various flight speed parameters of the platform aircraft and is very stable when the towing aircraft is flying at transonic speeds. Special scissors fitted with a pyrotechnic device cut the tow cable when there is no longer a need for further use of the decoy.

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Air Defense Launches From Disposition Areas Permitted

90UM0061A Moscow KRASNAYA ZVEZDA in Russian
21 Oct 89 First Edition p 2

[Article by Col A. Magritskiy, Capt. A. Galunov: "Missiles Launch From Disposition Areas"]

[Text] Not long ago such missile launches were unheard of. They used to all be done at a state range, but perestroika is introducing its correctives to processes occurring in the Armed Forces, including in combat training. And today all the residents of the military camp

have observed live launches of the antiaircraft missile battalions. The subordinates of Majors A. Romanov and V. Makarevich and Lt Col A. Kapranchikov received permission from the Commander in Chief of the Air Defense Forces to fire from their disposition areas.

"Here is where we will join battle if we do," said Lt Col Kapranchikov in a businesslike fashion after the launch. "This means, we have to train with allowance for the local situation..."

So it would appear. The "novelty" was well accepted at the office of the Commander in Chief of the Air Defense Forces, which recommended that "firing from the disposition areas be more widely practiced". The new method also gained recognition among the missilemen themselves. Nevertheless, there is still no solid assurance that this practice will become entrenched.

"The Northern Fleet provided us with great assistance in organizing the live launches," said Lt Col V. Kharchenko. "The sailors provided the targets and helped to ensure safety in the firing region. As they say, one good turn deserves another... But at present centralized shipment of targets to the fleet by the Commander in Chief of the Air Defense Forces has still not been organized. Each such fire demands the consent of the Commander in Chief.

There are also other problems associated with this innovation.

At present it is difficult to create the corresponding air situation at the disposition area. There is no equipment to evaluate the accuracy of fire. The plans for the delivery of fire by the missilemen are still not closely tied to analogous measures by the sailors. It is necessary simply to intrude in their planned training, which at times is difficult even with the support of the fleet authorities.

"We understand the desire of our neighbors," says the Chief of Air Defense of the Northern Fleet, Capt. 1st Rank V. Moskalenko. "But we have few "platforms" for the launch of targets. If the missilemen had their own training facility, it would be possible to create a more complex situation. And indeed, it would be necessary to insert a provision regarding the conduct of joint fires in the governing documents for combat training, to place our cooperation on an official basis, so to speak.

"Of course, a small range would allow us substantially to raise the level of crew proficiency," agrees Maj Gen G. Kromin. "But to fire on slowly moving or fixed targets is not a hard task..."

So why is the question of creating conditions to combat fast maneuvering targets being resolved slowly? We give the floor to the Chief of Combat Training of the Anti-aircraft Missile Troops of the Air Defense Forces, Maj Gen N. Penzin:

"In the units they do not have the capability to practice combat actions as a regiment. In the best case, effective

fire of individual battalions is possible, while the battle is directed by a unit commander. Is it worth it, then, to create another range?"

Of course, it is not easy to create a range. But achieving an increase in the quality of missileman proficiency, without fundamentally changing anything in the organization of training, is not possible. Indeed, a great deal of effort is required by many people, but I believe it will be paid back with interest. Fire from the disposition area raises the combat training of the subunits to a new level, and makes it possible to practice questions of interaction with other Armed Forces branches and service arms, in this case with the Navy. Of course, it will be necessary to work hard to develop joint plans of combat training and tactical exercises, in order to break down departmental barriers. But you know, present-day battle demands precisely this close interaction of all forces and means.

What does fire from the disposition area give us? First of all, a real opportunity to check the combat cohesion of all the antiaircraft missile battalions in the unit throughout the year. Second, to achieve more order in training. You see, the present procedure of subunits going to the state range does not allow uniformity in crew training. In those units that are called on to fire, as a rule there is elementary cramming before departure.

For example, the colleagues of Maj Ye. Nikanorov successfully performed their combat mission at the range. But at what cost? The subunit commander brought operators to fire who were discharged to the reserve shortly after going to the range. Their place is now taken by novices.

Relaxation after successful fire also occurred among the subordinates of Lt Col V. Gusev. The victors rested on their laurels, and the professional skills acquired by them in the course of intense preparation for the range began to be lost. Some time later the battalion was inspected by a commission of the higher staff. Guidance officer Lt. A. Smekalov, launcher battery commander Sr. Lt. A. Zhilkin, firer Capt. A. Get and other specialists did not know their duties, even though they had performed successfully at the range.

And another point. Movement to the firing region by rail transport, loading and unloading operations, preparation, and assistance to the range—all this requires quite a bit of time, while the active cycle of combat work at the range lasts for five or six days. The soldiers also experience discomfort on their return from the range, especially if the fire was held in the summer—they have practically no time left to prepare for the winter, and in the Arctic, as we know, winter is not to be trifled with.

It is also beneficial to conduct missile launches from the disposition area from the standpoint of economy. After all, missilemen must constantly move equipment and arms to the range, thousands of kilometers. According to experts, depending on the route, tens of thousands of rubles are spent on each such movement. This is by rail.

Movements must also be done by sea transport. And how much wire, lumber, and other materiel have to be sent to the range!

Many experts believe that even now we could conduct all fires in place, and go to the range by crews to participate in test drills, without equipment. In short, we are convinced that the problem of organization of fires from the disposition area will have to be resolved sooner or later.

Box below lead article: Comments of the Deputy Commander in Chief of Air Defense Forces for Combat Training, Lt Gen N. Chukarin:

The questions raised in the correspondence are also of concern to us. They have been examined repeatedly in the Directorate of Combat Training of the Air Defense Forces. Considering the positive factors of troop training when the fires are delivered from the disposition area, an initiative concerning them was supported by the Commander in Chief of the Air Defense Forces.

Are these fires sufficiently effective and instructive? Can they be conducted in any region? Presently it is hard to answer these questions in the affirmative. The fact is that launches from the areas of permanent disposition are possible only at the boundaries of the naval ranges (Northern, Pacific, and Baltic Fleets).

There is something else that is important here. Fires from the areas of permanent disposition still do not bring a tangible increase in combat mastery. The main reason is the impossibility of creating an instructive, complex aerial situation: with respect to density of the raid and with respect to the tactical and performance characteristics of the targets. The aircraft-targets presently used (considering their speed, maneuverability, absence of jamming...) pose no difficulties to the antiaircraft missile forces. Fires under simplified conditions mean high marks and "guaranteed success". Perhaps "guaranteed success" entices proponents of the innovation most of all?

Expansion of a net of regional ranges, even on the basis of naval ranges, will entail an increase in the organic strength of specialists, arms, and equipment of antiaircraft missile and radiotechnical troops, procurement of target systems with automatic launch capability and their installation on floating resources, shipment of missile-targets to launch points in poorly accessible regions, the construction of housing and special installations... Enormous material resources will be required for all this. They will exceed transport expenses associated with the movement of units to ranges many times over.

Nor can we discount the ecological aspect. During launches of missiles and missile-targets, there are failures of the ground equipment and malfunctions of onboard systems, and they fall without completing their program. Breakdowns lead to fuel spills, incomplete combustion of propellant and oxidant, and in the cases of which we are speaking, explosions and fires are possible outside the range situation, with pollution of the environment.

Live fires of aviation units at their permanent disposition area are a different matter. They are sufficiently effective and differ hardly at all from fires at organic ranges in complexity and instructiveness, and the targets used are practically the same. Therefore they are extensively planned in all regions and Air Defense formations.

It goes without say that we will not ignore the questions raised in the correspondence. The Directorate of Combat Training of the Air Defense Forces, jointly with the organs of combat training of Air Defense formations and of fleets is studying and developing the possibilities for the delivery of fire by antiaircraft missile battalions at regional ranges. Experience in joint work is being accumulated, and ways are being sought to equip the ranges with additional target systems to create more complex situations at exercises and conduct them with greater instructiveness. For example, next year for the first time a tactical exercise of an Air Defense formation is planned that will involve the delivery of live fire both by fighter aviation and by subunits of the antiaircraft missile troops at their areas of permanent disposition, in one region of the country.

Northern Fleet Losing Valuable Junior Officers to Retirement

90UM0049A Moscow KRASNAYA ZVEZDA in Russian
17 Oct 89 First Edition p 2

[Article by Capt Lt P. Lysenko, correspondent, organizer of the Northern Fleet newspaper NA STRAZHA ZAPOLYARYA: "Of Whom is the Navy Being 'Freed'"]

[Text] At the entrance to the building where the cadres department of a submarine flotilla is located things are lively. Lieutenants, 1989 graduates, are awaiting the resolution of their fate. Wearing a brand new uniform jacket, the next one in line, Lt Aleksandr Yuldashev, steps across the threshold. On his face is resolve to prove in the cadre organ that he must serve only on a submarine, only in a ship's crew.

"Who wants to serve on shore?" One of the lieutenants asks me again and shrugs his shoulders. "There were about two here, but they had that sort of specialty, and out of our group there is no one."

With his orders in hand, this Lt Yuldashev appears at the threshold of the cadres department. There is no reason for questions.

And I saw an entirely different picture sometime later in this same cadres department. It turns out that over the course of the last several months dozens of officers submitted requests for early discharge into the reserves.

"This, it seems, is just the beginning," says Capt 2d Rank V. Mayevskiy, chief of the cadres department. "Currently many are waiting to see what happens with the requests already written."

I leafed through the list of officers desiring to be discharged. Senior lieutenants, captain lieutenants, captains 3d rank. And yes, there is the point of view that everyone who so wishes should be released, and that the navy will only be cleansing itself of uncommitted people, and the better ones will remain.

But, among the officers requesting discharge were many who recently received assignments to higher positions or were promoted. And their efficiency reports are good. So, what is happening? And how can the fact be explained that almost a quarter of those who submitted the requests are young officers, only a year or two or three older than those graduating lieutenants?

Here is the name of 33 year old Capt 2nd Rank A. Yakimov, the assistant chief of the electromechanical service in a submarine division. He has had excellent advancement in service and has good prospects. In the opinion of the command he is a competent specialist and an able organizer. A higher position was planned for him.

Submariner Sr Lt Osmachkin, among the reasons given for his decision to be discharged into the reserves named

"dissatisfaction with service, and namely with the constant fulfillment of tasks and orders outside of my specialty, frittering away of working time, as a result of which the work day drags on until late, disorganization of clerical work, discrediting of officers in the eyes of their subordinates..." He added to this complete dissatisfaction also with the living arrangements made for his family, and the lack of real guarantees for a normal arrangement of life following discharge into the reserves upon reaching pension age, about which much has been heard in the navy.

According to the comments of his superiors, Sr Lt Osmachkin himself does not display the required zeal-ousness in his service. Nevertheless, let us not shift our attitude to criticism of his conclusions, especially since, to one degree or another, all of those who submitted reports with whom I spoke shared the point of view of this officer.

In the words of Capt 2nd Rank Mayevskiy, chief of the cadres department, a significant portion of the officers—and he spoke with almost all of them—desire to be discharged due to lack of faith in tomorrow. This is associated primarily with problems with housing, residence registration, and work, which arise following discharge into the reserves for age reasons, in those cities and localities where their relatives are living, and from where they were called up into the service. The imperfection of the document regulating the service and replacement of officers from remote areas also plays a substantial role here. In particular, it does not take into account the specifics of service on nuclear powered submarines. It is extremely difficult to find a place in the central zone, or in the south, for an officer from, say, the North Sea Fleet, who maintains a ship's nuclear power plant.

Much has already been said about the inadequate level of material support for officers and their families. I will note that the majority of those with whom I spoke talked not simply about the need to increase the pay of submarine officers, but, most of all, about a differentiated payment for work that varies in difficulty and intensity. The existence of a "ceiling" on the so-called sea duty add-on for the time that a ship is at sea leads, in the opinion of Capt 2nd Rank V. Pyzh, deputy submarine commander for political affairs, to a situation in which the crew, having reached it in the first weeks of operational service, continues its voyage "unpaid," as it were. As a result a paradoxical situation takes place. Seamen who carry out operational service do not differ in the amount paid from the sum that could be earned for short sea voyages. Where is the logic in this? Where is the realization of the principle: to each according to his work?

"It would seem awkward for us military men to speak about money when tens of millions of people in the country are living below the poverty line," noted Capt 3d Rank A. Pivovarov, a submarine deputy commander. "But, here is a specific life example. One of our officers

who requested discharge into the reserves has a wife and two children. His wife does not have an opportunity to work. And here again the crew went on a "circle" (this is what submariners are calling the cycle of measures that are accomplished during a lengthy separation from garrison, which entails the loss of a substantial part of their benefits—author). Pay was reduced. And they had approximately the same 75 rubles per family member that is today defined as the poverty line.

Some may see it differently, but I personally feel that the parliament members in our country thus far do not understand clearly enough the needs of professional military personnel. And, speaking about the funds saved as a result of the reduction in the Armed Forces, they do not think (or do not say aloud) that economizing on the pay for the most difficult work, which is associated with being continuously in extreme situations, inevitably causes an outflow of those desiring to engage in this work.

As the mission of defending the country has not been removed from the day's agenda, how can we reconcile ourselves to the fact that people "created" for very difficult operational work, engage instead in the cheapest, most unproductive labor, a huge part of the time? This is blatant mismanagement and absurdity, when submarine officers, warrant officers and sailors, instead of perfecting their skill, dig, build, and throw things around. For the small numbers, low capability, and insufficient technical equipping of support and rear services subunits have become a typical phenomenon. And if the purpose of, frankly speaking, unique specialists in society is devalued, naturally their labor and its assessment are also devalued.

For several years in a row already the crew of the nuclear submarine Murmanskii Komsomolets has invariably accomplished its operational services missions excellently. They say that there is hardly anyone who can be compared with it in terms of smoothness. The ship's command recommended Capt Lt I. Brusentsev, the best specialist in the crew and task force, for promotion to a rank higher than the duty he occupied (which is provided for by regulations). The recommendation was returned without implementation, although all of the formalities had been observed. The same thing happened with captain lieutenants M. Zaporov and Yu. Lobanov, also masters of military affairs, and among the best specialists. Lobanov, who is, by the way, the best hydroacoustics officer in the navy, was recommended for award of the order "For Service to the Homeland in the USSR Armed Forces" 3d degree. But he received the medal "For Excellence in Military Service" 2d degree.

The crew's political officer discussed this with entirely understandable vexation. Who does not know what it means to be the best hydroacoustics officer in the navy, but this was "not enough" for him to receive the order. By the way, this officer has more than one or two operational assignments under his belt.

The many months' long separations from families, multiplied by poor living conditions, and the acute shortages of places in kindergartens and jobs for the wives of submariners, frequently cause discord in the personal lives of the officers.

"More than a third of the officers in our crew are divorced," states Capt 2nd Rank Pyzh with sadness. "After practically every operational voyage there are two or three divorces. And at times discharge into the reserves is the only way for an officer to preserve his family."

Concerning this I have heard more than once: well, it is necessary to watch who you marry, and to choose true military wives. It is difficult to imagine more useless, impudent "advice." And it is more convenient for the one who gives it. Such "advice" does not require either the building of housing and kindergartens, or improvement in the supply of products, or organizing a precise work and rest regime for the crews; i.e., everything that could improve the situation in the families, and free the submariner from a constant headache: How is it there, and what is going on at home?

It is known that sailing men are traditionally treated with special respect in all countries that have a more or less developed navy. The speeches and articles in which we have and do glorify the "selfless military labor" of submariners could load a freight train. Now it is necessary to think about the fact that there is no longer any faith in all of these words, and that we can go no farther on the enthusiasm and selflessness of the peoples "in the forward area" of the navy—there is a limit to everything.

In one of the higher naval schools, students in the graduating class who did not desire to continue their study as officers were offered the opportunity to request discharge into the reserves. They assumed that the lazy ones, poor students, and discipline violators would so write. After all, it was they, seemingly, who would be burdened by the service. But it was the outstanding students, the pride of the school, who submitted the requests. The conclusion is known to the people who are truly concerned about the navy. If we are not indifferent to what choice Lt Aleksandr Yuldashev and his comrades, who today are striving for shipboard duty, will make in a few years, and if the navy and the country need high class professionals on submarines, then it is necessary to solve the entire complex of problems that submarine officers (and is it only they?) confront. Today. Now.

The editors asked Capt 1st Rank V. Larin, deputy chief of the Cadres Directorate, Northern Fleet, to comment on this material:

"I would like to say that the author painted a dark picture, but, unfortunately, I cannot do this. This year the fleet cadre organs experienced an unprecedented

stream of requests for discharge into the reserves, submitted by officers who have not served out their established terms of service. Thus, on 20 March of this year 326 officers submitted requests to the command for early discharge. Subsequently, 100 of them changed their decision. Of the remaining 226 officers (primarily in the ranks of senior lieutenant and captain lieutenant) 95 have been discharged to the present, and 98 have been recommended for discharge. It is not yet clear about the others.

Our analysis shows that the reasons for early discharge into the reserves are the following: 33 percent of the officers refer to dissatisfaction with the social and everyday living conditions supporting the work of professional military personnel; 31 percent to having made a mistake in choice of profession; 18 percent to a difficult family position; 13 percent to a lack of desire to work with the men; 4 percent to a lack of confidence in obtaining housing following discharge into the reserves; and 1 percent to other reasons.

Among those who submitted the requests, more than 70 percent are, if not the leading, then strong, competent officers, true professionals. Officers such as they can be considered the bulwark, the foundation of the navy. And if the bulwark begins to crumble, this is a very alarming signal. Not only for us military people, but also for the whole society.

Test of Incidents-At-Sea Communications Line

*90UM0165A Moscow KRASNAYA ZVEZDA in Russian
9 Dec 89 First Edition p 6*

[Article by Captain 2d Rank V. Pasyakin: "Razitelnyy to Capodanno: Over!"]

[Text] For the first time Soviet and American military vessels and aircraft participated in the planned test of a communications line.

An agreement between the Soviet and American governments to avert dangerous military incidents between personnel (and equipment) of the Armed Forces of the USSR and the United States goes into effect on 1 January 1990. In connection with this, the decision was made to conduct three joint tests of communications lines in December.

The first such test was conducted on 6 December in the waters of the Mediterranean Sea.

The headquarters of the Black Sea Fleet received a telegram from the patrol escort ship Razitelnyy. Here is the text: "The personnel of the patrol escort ship Razitelnyy have for the first time taken part in a communications exercise with an American ship and aircraft. Coordinated action with the U.S. Navy guided missile frigate Capodanno and the aircraft Orion was rehearsed. Communications personnel under the command of Senior Lieutenant I. Kryuchkov provided timely reception of instructions from squadron and fleet command posts... Captain 3d Rank Ye. Kiselev, Ship's Deputy Commander for Political Affairs."

I asked Captain 3d Rank V. Ivanov, section senior officer of the Black Sea Fleet headquarters, to comment on the exercise.

[Ivanov] This was the first planned exercise carried out by the Soviet and American military parties.

It took place in the waters of the Mediterranean Sea approximately 150 miles north of the entrance to the Suez Canal. The exercise began with a mutual identification of the ships. At first an ultrashortwave communications link was established on the 16-meter international channel. Then they shifted to frequencies in the shortwave and ultrashortwave ranges that had already been agreed upon. The Razitelnyy also established communications in the ultrashortwave range with the Orion, and the American frigate did the same with a Soviet military aircraft.

[Pasyakin] And had the ships of the two countries established communications previously?

[Ivanov] Yes, in an unplanned manner when the need arose. But it was for a short time and only on the 16-meter international channel...

I immediately recalled a conversation with the commander of the American guided missile frigate Kauffman during the official visit of U.S. Navy ships to Sevastopol. Ronald Bogle expressed a wish then to participate in a joint maneuver with Soviet ships within the framework of the visit. Such thoughts have been expressed on our side too. And now something that so very recently seemed impossible has come partially true.

Special Rescue Detachments

90UM0134A Moscow KRASNAYA ZVEZDA in Russian
25 Nov 89 First Edition p 3

[Article by Correspondent Maj V. Zyubin: "Rescuers"]

[Text] When a person becomes ill, you call the first aid service. But who do you call for help if some other type of disaster strikes—for example, if your house collapses? Only recently, it was hard to give a concrete answer to these questions. The tragic experience of Armenia and of subsequent major catastrophes showed that when human lives are at stake, any failure to respond promptly is too costly. And so seven special rescue detachments have been set up on the basis of the country's firefighting service. They have divided the entire country, so to speak, into seven zones of responsibility.

In the capital, on the other hand, it has been decided to form a special company for immediate rescue and relief work in the event of catastrophes, natural disasters, and other emergencies. It has already been unofficially dubbed the "rapid deployment company." We asked Colonel A. I. Chepyzhov, deputy chief of the Moscow city firefighting administration, to speak about the sub-unit's tasks.

[Zyubin] Anatoliy Ivanovich, why was this task entrusted to your administration in particular? What will be the difference between the rescue detachments created throughout the country and the company in the capital?

[Chepyzhov] No other city emergency service is as mobile as ours. That's the answer to your first question.

In contrast to the rescue detachments, the company will have a smaller staff. We do not have Newfoundlands and trainers. We simply have no need for them. Such specialists may be found in the capital, and they can always be quickly brought in on a job. The company will have fire rescue personnel, people with special training in chemicals and dosimeter operation, crane operators...

The company is to be fully operational next year. At present a building for the company is under construction built on Smolensk Street, and we are selecting people. We have already received 150,000 rubles' worth of equipment, including cranes of varying capacity, bulldozers, search equipment, radiation and chemical reconnaissance instruments...

[Zyubin] One company for a city of several million people doesn't seem like very much.

[Chepyzhov] Let me emphasize that its mission is solely to perform immediate rescue work. It is a first aid service of sorts. The paramount task is to save people's lives. Should a massive accident occur, additional manpower and equipment will be brought in.

One more thing. Don't consider me a pessimist, but the role of this unit will become more important every year,

in my opinion. The fact is that production is growing more and more complicated, and more facilities using hazardous chemicals are appearing. This view of mine is confirmed by life itself (Anatoliy Ivanovich hands me a report on accidents that have occurred in the past two years). We always have to act in conditions in which relatively unpredictable processes are at work. This risk is part of our job. But no risk can be justified if it stems from incompetence or from a lack of the essential equipment. Consider the accident at the warehouses of the Krasnaya Roza [Red Rose] Silk Combine. It occurred in May of last year. Rainwater flooded a basement in which containers holding sodium hydrosulfite were stored. A reaction began, resulting in combustion and the production of toxic gas. Resolute actions by firefighters acting in conjunction with Civil Defense forces made it possible to prevent any deaths. But what tremendous effort was required! For in order to devise tactics and a strategy of action, it was necessary to rapidly access the situation, to make the required analyses, and to determine the speed at which the chemical cloud was spreading. And only specialists could do these things. Such situations prove that the rescue company is a vital necessity.

[Zyubin] Do such units exist in other countries?

[Chepyzhov] In many countries. In France, for example, such a service was created back in the time of Napoleon.

[Zyubin] Napoleon?

[Chepyzhov] Yes, Napoleon. This is no exaggeration.

[Zyubin] A certain amount of experience has doubtless been amassed there. What if we turn out to be reinventing the bicycle?

[Chepyzhov] We also have experience of our own in rescue work, of course. It is somewhat scattered, so to speak. For accident and catastrophe relief efforts have involved Soviet Army soldiers, firefighters, and Civil Defense subunits. Most of this experience resides in people, and they are, as we see, scattered throughout various organizations.

Exchanging experience with foreign specialists wouldn't hurt, of course. Unfortunately, no such meetings are planned as yet.

[Zyubin] Will the rescuers' salaries and uniforms differ in any way from the salaries and uniforms of regular firefighters?

[Chepyzhov] No. But if we are to seriously consider ways of enhancing the prestige of this dangerous and noble occupation, these aspects must not be overlooked either. For another characteristic feature of our administration is that it is staffed by young men between the ages of 18 to 20. And some of them are embarrassed by their uniform and do not consider it to be prestigious. Needless to say, a good deal depends on public opinion as well. Before, when the statistics were classified and people were unaware of the extent of our work, some

people held the prejudiced view that all firefighters do is sleep. Glasnost has destroyed that myth.

Let me take this opportunity to cite a few figures. In the first 10 months of this year, 98 people lost their lives in fires in the capital, and 186 sustained injuries and burns of various degrees. Damage from the fires amounted to 2,489,000 rubles. For purposes of comparison, let me note that total damages last year amounted to 5 million rubles. It's hard to even imagine what the damage would have been without firefighters. Suffice it to say that our firefighting squads have answered more than 70,000 calls this year!

[Zyubin] A final question. What advice do you have for those who, after reading this article, decide to become rescuers?

[Chepyzhov] To think over their decision carefully. To ask themselves and their conscience: Am I ready to throw myself into a fire, to risk my life, to crawl through wreckage in order to save a stranger?

These people must have a good and courageous heart.

Alternatives to Resolving District Rear Service Problems

90UM0114B Moscow SOVETSKIY VOIN in Russian
No. 18, Sep 89 (Signed to press 11 Sep 89) pp 81

[Commentary by Major General G. Kurdakov, Kiev Military District Deputy Commander for Rear Services, under the rubric "I Wish To Speak": "The Taste of the Berries in an Officer's Garden"]

[Text] Until recently, life on a military installation has been represented in our press as idyllic: with a perpetual garden, without problems, and without scarcity...

But in recent months the newspapers and magazines have renounced the rosy outlook, exchanging it for... a gloomy one—everything is bad.

"Such an approach gives rise to mistakes in our attitudes toward the profession of officer and toward the military without solving the problems themselves," wrote Major General G. Kurdakov, the Order of the Red Banner Kiev Military District Deputy Commander for Rear Services and Chief of District Rear Services.

The letter seemed interesting to us because it talks about trouble areas and names specific ways to solve social and consumer issues, something at which the Kiev Military District is counted as one of the best in the Armed Forces.

Severely mistaken are those who believe that the military installation's walls are a defense against problems common to the nation and all its peoples. On the contrary: To the common misfortunes the military adds its own, such is the nature of our service. Take those same housing problems. Solutions are hard to come by everywhere else, while in the Army the problem is that much worse.

Here is a typical situation which, from one year to the next, is repeated at almost all military installations. Officers leave the service and assume reserve status. Some, a minority, find lodgings with their relatives, for example. Others stay behind and join the line for housing in the nearest city. It is their right. But how many years will a former officer spend on the waiting list—a year? Two? Ten? Meanwhile other officers, often with families, arrive to take the place of those who have been discharged. Frequently they have to huddle in all sorts of barracks and dormitories for bachelors where at times, as formerly, "there is one bathroom for 38 little rooms." Some even live in converted school classrooms. The consequences for the officers of this "idyllic" existence are bad tempers, exhaustion from constant anxiety over their families, the inevitable family frictions, and sometimes even divorce. Do I need to say what effect this has on the service?..

I suggest an alternative. Let us say it is known that in a certain city officers receive an apartment only after 2-3 years on the waiting list. Consequently, a requisition

should go to the city soviet executive committee for a temporary reserve of an appropriate number of apartments.

Of course this issue must be resolved at the level of the governments of the union and autonomous republics, or a USSR law must be instituted on a nationwide scale. There is no other way. For instance in our district 18,000 officers, warrant officers, and career servicemen are in need of housing. If you consider that 1,000 people receive apartments each year in the district, then that means each person has to wait almost 20 years to receive a new home. This is bitter arithmetic...

Naturally we ourselves do not merely invent grand "schemes." We also work, as much as we are able, to reduce the severity of the problem.

In one of the district's garrisons there were plans to tear down an old resident hall. In time they reconsidered and undertook all the troubles involved in replanning the project. They made major repairs on the house and redesigned the rooms, and in the end they had an "above-plan" hotel to provide temporary lodging for families arriving at the garrison.

However, one thing is clear: Such a hotel is only a drop in the ocean.

For this reason I believe General of the Army A.D. Lizichev, speaking at the rostrum of the USSR Congress of People's Deputies, made a very timely statement. He said that questions of providing housing and job placement to those discharged into the reserves will always be a concern of the people's deputies, and that the fate of the officers will be decided on principles of social justice.

And now for medical services, and for that health which, as they say, cannot be bought at any price. By no means are there outpatient clinics, never mind hospitals, in every military installation. Traditionally there was only one answer: Drive people to the nearest medical institutions. But this was not always the best solution. A whole chain of difficult issues crops up: Allotting transportation, replacing people, and losing time. The inhabitants of the distant garrison where Lieutenant Colonel of the Medical Service N. Sokolov serves experienced such inconveniences. It was a long way to the next town and there was little transportation. Sometimes it took weeks to form a "brigade" for the trip by bus to the city medical institutions. But they found an answer. They appealed to the local physicians via the city soviet executive committee. And the physicians began to meet the servicemen halfway. Medical specialists began to drive to the installation regularly. Days were set for seeing members of the families of the servicemen.

We are also looking for other answers. Perhaps we can organize cooperatives made up of the wives of officers and warrant officers who have medical training.

In general I believe that cooperatives in the military installations are an extremely promising and useful concept. In the first place we get a return in the form of needed services, and in the second place there is an opportunity to provide appropriate work for the women, who often either cannot work in their specialty or cannot find any sort of work at all. They lose their professional skills, and this sort of "unemployment" tells on the material position of their families...

In general, it is possible to solve any problem if we think about it.

Here is one more example of providing work for the women of an installation. At the garrison where Major General V. Vasilyev serves, the command has turned to the oblast's enterprises with the suggestion that they find mutually profitable ways of finding work for the wives of servicemen. And they found them. They opened a workshop for a shoe factory at the garrison, and they organized a collective to provide work at home for a factory providing fancy goods and decorative needlework. At the garrison's commissary they formed a workshop to produce nonalcoholic beverages, where the wives of officers and warrant officers also work. And the garrison's dressmakers and seamstresses joined together to form the cooperative "Sashenka," which was created with the support and assistance of the command.

And now about consumer goods. And, consequently, about scarcity. These days the notions are indistinguishable. I am not going to talk about which goods are in short supply in commissary stores. In the first place the list will be a long one, and in the second place we do not even have those things that may be found in regular "civilian" stores. And of course there are no "closed" departmental factories producing detergent or children's clothing for us.

As for food... The system for supplying the stores of the district's garrisons was as follows: Goods were delivered from the rayon or oblast center, which is sometimes located at a significant distance. And the goods had been sent there, to the center, from the collective and state farms, many of which are close by the military installations. It is an impractical system. It is much simpler to move the goods from the state farm directly to the installation; from the field to the store. Almost all the garrison commissaries now function on this model. This provides benefits in terms of both quality and quantity of food products.

On the whole it must be said that we, the servicemen, do not at all "sponge" off the state, as some uninformed people believe. In his speech at the Congress of People's Deputies, General of the Army A.D. Lizichev talked in detail about the contribution of the Armed Forces to the development of the national economy, and in particular about the goods the Army not only consumes but produces, and not just in small quantities.

In our district, production at military state farms of meat and milk products for sale to servicemen and members

of their families is constantly increasing. They plan to sell 400,000 rubles worth of meat and milk in 1989.

The district's military state farms are building a sausage shop, a butter factory, two hulling mills, and a shop to produce curds and cream in a joint project with the cooperative "Dymok." So if supplies are a little better at some military installations than with their "civilian" neighbors, it is not with the help of massive state aid but rather thanks to their own initiative and enterprise. We could develop even further were it not for the many obstacles in the form of outdated prohibitions and injunctions in the way of the Army's supply personnel. We still have little financial independence. It is not clear how to act in this or that instance upon concluding contracts with cooperatives. Legislation concerning these issues must be improved.

There are additional difficulties in the garrisons with the market place. Sometimes stores are placed in out-of-the-way, cramped accommodations. The same thing happens, by the way, to consumer service enterprises.

It seemed as though everyone was content yesterday if the garrison had shops for the repair of footwear and watches and a small barber shop. Today a sewing workshop, a hairdresser, a rental outlet, and a fast service dry cleaners are deemed absolutely necessary...

Not long ago in the military installation where Lieutenant Colonel Yu. Bogachev serves, a new commercial consumer facility was put into operation. It was an entire consumer service establishment where they sew and repair military uniforms and civilian clothing, repair watches and boots, produce ribbons for medals, and offer a number of other services. The building had a barber, a rental outlet, a laundry, baths, and a photographer's studio. Previously the inhabitants of the installation had to drive to the rayon center for the most insignificant reason. How would they get there? Where would they find the time? Each had to solve these problems on his own. Now it is another matter.

It would seem to be a fact: Consumer services have been raised to a new level. But... as before, complaints arrive from the garrison. What is the matter? It seems that they overlooked one little "detail"—a dry cleaner. And so people are dissatisfied. I find it an instructive instance. The new needs of the population dictate the need for a new approach to solving them—one that is comprehensive with regard to the long term.

There are so many problems, and I have not managed to talk about all of them. Transportation, kindergartens and day nurseries, and organization of leave—these areas have their troubles too. In a word, putting the situation in perspective, we have those same daily problems behind the wall of the military installation that exist in the majority of our cities, big and small. But they are perceived as more severe, in my opinion, because they serve as a constant background to the officer's nomadic life and to the difficult and crucial task of military service. We will try to do what we can to improve the life

of the serviceman and those close to him. And when you see that you do not have the resources to solve the problems you become angry: Is there really a shortage of housing, of the most necessary consumer goods, of qualified medical service—the obligatory and ponderous complement to those burdens and deprivations of military service already mentioned in the field manual?

It should not be that way. The first USSR Congress of People's Deputies affirmed the fact that social questions are today among the most troublesome. As the further development of the country as a whole is impossible without their solution, so the success of perestroyka in the Army depends directly on these "unimportant," at first glance, problems of daily existence.

Thus we must not sit idly by complaining of difficulties, even objective ones. Enterprise, business acumen, and a search for original, contemporary solutions helps inch by inch to win back "territory" occupied for the present by disorder, scarcity, and housing problems in everyday life.

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Conversion: Agroindustrial Products from Aviation Plant

90UM0070B Tashkent PRAVDA VOSTOKA in Russian
19 Sep 89 p 1

[Article by Uzbek News Agency correspondent K. Nizamov in the column: "Interview on a Pressing Topic": "This Is Conversion: Plant Belonging to Aircraft Builders Fills Orders Placed by Agroindustrial Complex"; first two paragraphs are PRAVDA VOSTOKA introduction]

[Text] The collective of the Andizhan mechanical plant Kommunar, which is a part of the USSR Ministry of the Aviation Industry, even in the past accomplished quite a bit of production for the country's cotton gins. However, this enterprise has recently been receiving even more orders from agroindustrial collectives of the Fergana Valley.

Below we present comments made by plant manager Khalillulo Khatamov, delegate to the 19th All-Union Party Conference. His answers were in response to the question: What prompted your collective to take up the manufacture of products that are not typical for you—equipment for processing industries?

[Khatamov] The concept of "independence", under conditions of economic accountability, permits—in addition to protecting collective interests—influencing the state of affairs in one's own city, oblast, and republic.

Let me cite an example. For years plant and factory collectives "struggled," fulfilling and overfulfilling union ministry tasks. However, this work was often completely detached from fundamental problems of the particular area involved.

Now, however, the Law on Enterprises and changing planning practice create objective prerequisites for drawing up plans that include economic possibilities and local interests. We are convinced that this will promote more complete satisfaction of the material and spiritual demands of thousands of our fellow countrymen. You are aware of the great number of socio-economic problems facing the republic.

Creative collective thinking is receiving a shot in the arm as a result of the changes introduced into our lives by the Congress of People's Deputies and the first session of the new Supreme Soviet. I am certain that it is democratization alone that has permitted even us—members of the Kommunar—to evolve the present collective search for resources. One of the results: In a period of seven months, we manufactured and delivered to rural toilers 61 low-capacity canning units designed to process fruits and vegetables directly at the place where they are grown. These products are being purchased by kolkhozes, sovkhoses, and agricultural cooperatives. They also found a ready use for 25 rolling machines. We have produced our first production line for use in a small tomato-processing factory.

[PRAVDA VOSTOKA] We have great opportunities for expanding the assortment of "non-flight" products. It seems that they are far from being exhausted.

[Khatamov] That is true. Take a look at these letters from devotees of athletics living in Namangan, Andizhan, and Osh. It gladdens our hearts to read what they have to say about Kommunar's innovative training equipment for sports and health centers located in plants, institutions, secondary schools, and VUZ's. We have already manufactured 22 of these health-promoting units to fill orders submitted by these collectives.

The main trend in "conversion" is still learning to manufacture products that will serve as a production base for future social changes. We have recently shipped an experimental model of small asphalt plant for operational testing. In addition, we are in the process of building two mobile shops (mounted on tractor-pulled trailers). One is designed for canning and processing fruits and vegetables, the other for hulling rice. We are also fabricating a vegetable-drying unit. All these items should be placed into series production before the five-year plan runs out. I can say the same for mobile complexes for producing cinder blocks and adobe. Every one can be used in virtually any kishlak, using local raw materials.

[PRAVDA VOSTOKA] In the latter part of last year, the interbranch association Progress was organized in the oblast; you were elected president. What are its functions and prospects?

[Khatamov] This is an association of industrial enterprises, of cooperative and social organizations. Our goal is to strive for more efficient use of manufacturing resources so that we can expand goods and services production and develop the infrastructure. To attain this

end, it should be clear that we must all get together on resolving the tasks inherent in scientific and technical progress.

We are of the opinion that the association can sponsor individual sovkhozes, kolkhozes, and rayons in the area of resolving their pressing problems. We intend to build interrelationships on a solid footing. For example, the association provides or purchases for them machinery, erects farm buildings and warehouses, and distributes various materials at prices set by the state. In return, it receives meat, milk, vegetables, fruits, melon crops, etc., also at state-set prices. This is not the previous false "patronage"; it is true collaboration by interested parties.

It is in none other than this union of fundamental interests of workers in city and rural collectives—a union dictated by a specific economy founded on strict compliance with the law—that we see a true reserve of a very rapid solution to the food problem and of accelerated development of the social sphere.

General Economic Policies Under Conversion Discussed

904A0082A Moscow *SOTSIALISTICHESKIY TRUD* in Russian No 10, Oct 89 pp 55-59

[Article by L. Popov, chief of the department for defense sectors of USSR Goskomtrud: "Conversion at the Beginning of the Road"]

[Text] Our country has announced a 14.2-percent reduction of the military budget of the USSR and a 19.5-percent reduction of the production of weapons and military equipment. Following the statement of M.S. Gorbachev, leader of the Soviet state, in December 1988 in the United Nations, the word "conversion" began to appear in the pages of newspapers and working papers. This term signifies a gradual transition of defense plants to the production of civilian products and consumer goods.

Advocates of militarization in the capitalist countries, using the fabricated myth of the "Soviet military threat," are coming out against disarmament, and that means against conversion as well. At the same time, they are trying to prove that military production supposedly contributes to economic development, to scientific-technical progress, to reduction of the level of unemployment, and to an easing of economic crises, while conversion inevitably results in an economic slump, a growth of unemployment, and other adverse social consequences.

But reality and the research of distinguished scientists refute this line of argument. Experience in the conversion of enterprises of many countries to the production of civilian products following World War II indicates that capital investments fourfold greater than in the civilian sector are required to create one job in military production. According to the figures of the budget office of the U.S. Congress, every \$10 billion spent for military

purposes creates 40,000 jobs fewer than if the same money were committed to the production of civilian products.

Scientific research has shown that solving the problem of conversion promises great economic advantages which far exceed the temporary difficulties related to putting civilian products into production. UN experts believe that conversion, in spite of all its complexities, is not something out of the ordinary. A process of structural perestroika is constantly taking place in any country's economy, outdated products are being replaced by new ones, and this is true in the field of armament and military equipment just as it is anywhere else. A report of the International Labor Office contains the conclusion that the defense industry does not have any specialties, aside from a small group, which could not be applied in civilian production. Accordingly, the retraining of workers and specialists to gain new skills will not require large expenditures of time and money. In the assessment of ILO experts, assuming appropriate preparation, conversion of a large military enterprise could take from 1 to 3 years depending on the extent of the change of the product, the process, and the equipment.

In recent years, the problems of conversion have been repeatedly discussed in international meetings and symposiums. It has been emphasized that conversion from military to peace-time production will involve only problems that are temporary in nature, which are not difficult to overcome, while elimination of the immense burden of the arms race will speed up socioeconomic progress.

The advanced capitalist states have a certain experience in the field of conversion. Following World War II, the U.S. economy successfully restructured to operate under peace-time conditions. The total size of the American Armed Forces was reduced from 11.6 million men in 1945 to 1.5 million in 1948. Over that time, military expenditures dropped from \$81.2 billion to \$11.8 billion. The level of unemployment, in spite of the "prophecy" that it would rise to 8 million, was substantially lower in the first postwar years than before the war and did not reach 4 percent. In England, where over the 16 months following the end of the war employment dropped from 9 to 2 million persons in military industries, unemployment was no higher than before the war and was no less than 4 percent.

Research of American economists has shown that production of military products with a total value of \$1 billion (in 1981 prices) in such militarized industries as aviation, missiles, and radioelectronics, require substantially fewer job slots than for manufacturing civilian products. According to data of the German Economics Research Institute in West Berlin,¹ 10 billion West German marks represent 180,000 jobs in the military industry, more than 200,000 in health care, and 230,000 jobs in the service sector.

There is a close correlation between the problems of disarmament and the socioeconomic development of society. In any country, there are a multitude of diverse economic and social problems whose solution is held up because of the shortage of resources. Disarmament and conversion would make it possible to increase investments for social purposes sharply, using a portion of the resources made available. This would help to boost personal income, pensions, and other social insurance benefits and to raise the standard of living of broad strata of the population. Diverse alternatives for increasing expenditures for social purposes as a result of conversion are given in the press of a number of capitalist countries. A comparison of even specific individual expenditures for military and social purposes shows the immense benefit that can be achieved. For example, cessation of work on the program for producing the F-18 fighter, with a cost of \$34 billion for the U.S. Navy, would make it possible to modernize the entire stock of machine tools in the United States and bring it up to the average level of Japan's stock of machine tools.

Economists of the capitalist countries anticipate a sizable economic benefit from the switchover of the efforts of scientists and engineers to strengthening the scientific-technical base of civilian production. The influx of highly skilled specialists, in their opinion, would signify technical progress in this sphere as well.

At the same time, research shows that during conversion temporary difficulties could arise in solving the problem of employment. The transfer of military resources to peaceful purposes is no simple task. Organizational measures have to be carried out, and time and resources are needed. A specific nationwide program has to be drafted for conversion, measures have to be taken to create new jobs, help has to be provided in occupational retraining and in the redistribution of workers and specialists between sectors and regions.

The plan for conversion of Soviet military production is now being drafted by the appropriate departments and ministries. Its principal component is a set of measures envisaging the reorientation of the capacities of military enterprises to the production of up-to-date manufacturing equipment for light industry, the food industry, the manufacturing industry, and the agroindustrial complex, as well as for a substantial increase in the volume of production of consumer goods. Just between 1988 and the end of the FYP the volume of output of consumer goods at enterprises of defense sectors will increase by 4 billion rubles, and the output of these goods in 1989 is to be 1.5 billion rubles more than envisaged by the FYP and will total 4.5 billion rubles. Even today 345 defense enterprises have become involved in the production of equipment for light industry and the food industry, and by 1995 our defense industry is to increase the volume of production of this equipment by a factor of 2.3 and manufacture almost 1.5-fold more (in comparable prices) than has been produced over the last 20 years.² And this will undoubtedly have a favorable impact on

the standard of living of the workers and on satisfaction of their needs for consumer goods.

But conversion will take place unevenly at the various enterprises in defense sectors and from region to region of our country. The reason is that most defense enterprises are even now producing civilian products and consumer goods along with the production of armament and military equipment. At such enterprises, conversion will mainly occur through an increase in the volume of production of civilian products already being produced and through expansion of the assortment of those products.

It will be far more complicated for enterprises which are specialized exclusively in the production of military equipment and armament and which are now manufacturing negligible amounts of consumer goods. USSR Gosplan and the relevant sector ministries must in the very near future define the list of civilian products and consumer goods for such enterprises which will be manufactured under the state order, assigning them deadlines and annual volumes of output. In order to stimulate a growth of the production of consumer goods and the volume of services rendered to the population, in accordance with the decree of the USSR Supreme Soviet entitled "On Taxation of the Remuneration Fund of State Enterprises (Associations)" exempted enterprises from the tax on the growth of resources committed to remuneration over and above 3 percent resulting from increased production and sale of these goods and services.

Problems are arising in obtaining personnel, in retraining them, in eliminating their jobs, and in finding them new jobs. These problems are being solved at the level of enterprises and ministries. Measures for retraining workers and specialists to teach them new skills, to provide them benefits and compensation during the period of retraining, the mastering of new occupations, and job placement if they are laid off need to be worked out in advance. This means determining the annual number of jobs which will be eliminated and newly created for the production of civilian products at every enterprise and in the sector as a whole. This approach will make it possible to discover exactly how many workers and specialists will be needed when and where, how many will be laid off, and who will have to be retrained to do what.

Courses of study within universities, courses at the sector level, institutes for improvement of qualifications, and so on, should be used for retraining workers and specialists in new skills. It is advisable to retrain workers and specialists at those enterprises which are the developers (manufacturers) of civilian products in the respective sector as well as other sectors whose products will be put into production at the enterprise in question.

If it is not possible to place workers and employees in other jobs at the enterprise where they have been

employed in the production of military products, information about them should be sent promptly to local job placement authorities and to USSR Goskomtrud. When the information exists for sectors and regions as a whole, job placement authorities will be able to solve problems of job placement promptly, and one way will be by organized recruitment. It is advisable in enterprises and ministries to create special commissions to coordinate the effort of carrying out conversion, in particular to organize job placement and the teaching of new skills to workers and specialists.

In the very near future, specialists of enterprises, ministries, labor agencies, and USSR Goskomtrud must analyze the adequacy of benefits and compensation for workers going through skilled training or subject to layoffs in connection with conversion, and if necessary carry out the proposals for their improvement to suit the conditions of conversion.

Before the end of 1989, plans will be prepared as an experiment for conversion of two or three defense enterprises. It is obvious that these plants will be "proving grounds" on which the methods of conversion will be "ironed out." But to some extent this also applies this year to other enterprises as well. Measures to guarantee job placement and vocational retraining of workers laid off at enterprises and discharged from the USSR Armed Forces have been drafted and approved in USSR Goskomtrud. Provision is being made for specialists of USSR Goskomtrud to take part in the practical administration of conversion at the enterprises, where a model of conversion will be developed, and also at those where even in 1989 a sizable reduction in the volume of production of military products is planned. They will help in guaranteeing employment of personnel, in job placement, and in vocational retraining.

Public ownership of the means of production and the planned character of our economy create the prerequisites for effective accomplishment of conversion. This is confirmed by the experience of restructuring the country's economy following the Great Patriotic War. Restructuring was carried out on a planned basis, without any sort of disturbances, and it was completed by 1946. Military enterprises were converted to the output of civilian products in a short time. The total volume of industrial production exceeded the prewar level by 1948. Conversion of the military economy was accompanied by rapid economic development and a rise in the standard of living of the Soviet people. It did not cause unemployment. On the contrary, a demand for workers and specialists was felt everywhere.³

Conversion will undoubtedly have an impact on the quality of civilian products produced. It is no secret that scientific achievements, advanced technologies, and better organization of work are more fully used at defense enterprises than at enterprises in other sectors. And people are the main thing. The defense sector has instilled and crystallized in the working class virtues that

are so indispensable today, such as high professionalism, responsibility, self-discipline, and pride in a job well done.

For instance, the USSR Ministry of Defense Industry has been designated the head ministry for eight types of equipment for the food industry; it is accountable both for the technical level and also for its series production.

The main task is not only to increase the output of machines for the food industry, but also to raise their technical level and quality. These parameters are extremely low today. Only about a fourth of all the products transferred to the branch last year meet the present-day level. The idea in essence is not a rebirth of this subbranch of machinebuilding, but creation of a fundamentally new one. In addition to the more than 600 products produced now, approximately the same number will be put into production for the first time. Dozens of plants, KB's, and process engineering institutes have already become involved in this. Within the ministry's scientific-technical council, a section has been created for machines to be delivered to the food industry. Some 10 small plants of the former Minlegpishchemash, where about 20,000 workers were employed, have been transferred to the sector. All those plants are in a pitiable state. Specialists have inspected every enterprise and studied its technical level and personnel. At a number of plants, they did not even have employee facilities. Housing was not built, and pilot operations were nonexistent. Now plans have been worked out for the reconstruction of every plant, for putting new products into production, and for the social development of the collectives. Not a single enterprise will be liquidated.

Significant prospects are also opening up for raising the technical level of plants operating as subcontractors. They should not simply be taken in tow, but there should be a merger. For instance, in USSR Minsredmash the new association "'Molniya' Machinebuilding Plant" has come into being. When workers first left the "Molniya" Plant in Moscow and traveled to Plavsk to the plant for the production of separators, they were unable to meet even half the quota with the maladjusted equipment, they had become accustomed to a different quality of work.

The main danger during the transition to peace-time production is that requirements as to quality and performance of work could drop. This is a real danger: At "Molniya," they worked for a long time on the principle of "zero defects."

The military plant has started out on the road of conversion. This means that sooner or later it must come up against the problems typical of the civilian sectors. And they are already making themselves felt. First of all, pricing has not been worked out. The present procedure for setting the price of separators offers no incentive at all for the renewal of the product and for making the units more durable. A comparable Swedish separator, equipped with electronics, costs tenfold more, but it has

a warranty period that is many times longer than ours. Ours is old-fashioned in its design, and its warranty period is only 1.5 years. When products for defense purposes were manufactured, materials were delivered on a priority basis. Now supply problems typical of the civilian sector will take on full stature for the military industry as well.

The first reports have begun to appear in the pages of our press about the progress of conversion at defense enterprises. For instance, the Moscow "Labor Banner" Aircraft Plant reduced the volume of output of aviation products 30 percent in 1989 and will reduce it another 30 percent by 1990. Instead of MiG-29 pursuit planes, it will be manufacturing automatic machines for packaging sugar, 22 different consumer goods, including equipment for the kitchen. To be sure, the plant's profit has dropped 12 percent, but the state is offsetting these losses with an appropriate tax on profit, and a high contract price on the new products. This is real support for the enterprise. The wages of workers and specialists in the section producing automatic machines has dropped 5-7 percent, but only during the period when the new product was being put into production. People at the plant are looking for ways to solve the problems of conversion, taking into account the interests of every worker, of the collective, and of society.

Footnotes

1. R.A. Faramazyan, "Gonka vooruzheniy i konversiya voyennoy ekonomiki" [The Arms Race and Conversion of the Military Economy], Moscow, Nauka, 1985.

2. I.S. Belousov, "On the Military Assembly Line—Goods for the People," SOVETSKAYA ROSSIYA, 10 February 1989.

3. R.A. Faramazyan, op. cit.,

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Conversion: Defense Resources for Environmental Protection

90UM0070A Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 20 Oct 89 p 2

[Article by Professor V. Akovetskiy in the column: "A Specialist's Opinion": "Conversion and Ecology"; first paragraph is SOTSIALISTICHESKAYA INDUSTRIYA introduction]

[Text] Conversion is the topic of discussion of laborers and ministers, party workers and deputies, defense plant managers and generals. But how to initiate it so as to attain maximum economic advantage? What is the best way to utilize the intellectual and technological potential of the defense complex? If we are to take into account the "defense side's" capability of creating highly complex devices, conversion of defense plants to the manufacture of consumer goods and simple products is unwise, to say

the least. It is also economically foolhardy to destroy instead of convert highly modern military equipment. But what would be the applications of conversion? In answer to this question, there are quite a few possibilities. Below we offer definite ways of placing the "defense side" in the service of ecology. We presently have no objective information on the condition of the environment on the territory of the country, especially information that is up-to-date. For this reason, importance attaches to utilizing the capabilities of the Army, defense and space industries to organize a state ecological data system that would be responsible for the input, storage, and processing of data on the condition of the environment at any location and point in time. It is presently possible to apply the experience gained by signal troops and the Ministry of the Communications Equipment Industry to set up data transmission systems and data collection centers and also organize all types of communications, including satellite, tropospheric, radio relay, and other types. A major role in the state ecological data system could be played by the Mission Control Center, which operates only during flights of Mir type stations. It could serve as a base for setting up an ecological safety center that would provide rapid evaluation of an ecological situation for the purpose of producing optimum decisions. The formulation of these decisions would require the use of ecological maps and charts, a task that could be assigned to specialists from the ground forces and Air Force. To calculate the distribution of toxic emissions into the atmosphere, it would be advantageous to utilize strategic forces and the Minobshchemash [Ministry of General Machine Building]. A considerable contribution to work on this problem could be made by the Central Scientific Research Institute of Machine Building, where specialists are able to design experimental models and calculate complex gas-dynamic tasks related to dispersion of toxic compounds.

Chemical troops and military medics can participate in the development of instruments for use in detecting toxic substances. It is no secret that U. S. Army chemical scientists have successfully resolved similar tasks.

Defense industries working jointly with chemical and engineering troops can become co-originateurs of new technologies and apparatus for processing wastes produced by chemical and petrochemical plants. The need for such technologies and machines is enormous. A large number of USSR chemical enterprises is discharging millions of cubic meters of mineralized waste waters. These wastes form "white" and "gray" seas containing enormous amounts of wastes. In addition to fouling the environment, they contain various chemical substances worth billions of rubles.

A major difficulty we will encounter if we do indeed set out to organize an ecological system would be the absence of special monitoring equipment in the form of stationary and mobile laboratories. Conversion once more could come to the rescue here. Scientific production associations of the defense industries are capable of developing and producing highly complex laser and

optical devices and apparatus for surface-based and remote monitoring of the atmosphere.

We can utilize as mobile laboratories all-terrain vehicles, amphibious vehicles, railroad staff cars, large trucks, naval hydro-jet boats and small boats, and heavy bombers. Even nuclear-powered submarines and large surface vessels can fulfill ecological functions if they are refurbished as stationary and mobile floating laboratory bases. These kinds of laboratories can be fairly easily connected to self-contained sources of electric power available from the Armed Forces. The use of stationary and mobile laboratories will also make it possible to find employment for military specialists that are released as a result of the forces reduction, by routing these personnel to the ecological monitoring service.

I must mention that military and space technology is already in ecological service to some extent. For example, the monitoring apparatus of the fire and explosion safety system used on the Energiya rocket has been installed in the Combine imeni Ilich (Mariupol), with the result that it has reduced toxic emissions by an order of magnitude, improved explosion safety, and enhanced considerably the energy and economic parameters of the open-hearth furnace. Broad application of this system on an industrial scale would bring about a considerable decrease in atmospheric fouling by oxides of nitrogen and carbon in Nizhniy Tagil, Mariupol, Zaporozhye, and many other cities. The TsNIImash [Central Scientific Research Institute of Machine Building and Metalworking] has developed methods of highly efficient neutralization of toxic oxides that can be widely employed in electric power production and metallurgy.

The same TsNIImash is in a position to present concepts of an ecologically safe engine. The concepts have been worked out to such an extent that they permit the initiation of developmental work at the present time. Plants of the defense industries can be retooled to manufacture this kind of engine. One of the concepts (originated by Yu. Karpenko) consists of the binary system household gas—gasoline. Without going into detail, I will say that this engine offers a 45- percent reduction in gasoline consumption, reduces emissions of oxides of carbon to 0.1 percent, and enhances the power and life of the engine.

Another concept is that of a steam power plant. Fuel in the engine, instead of undergoing compression, is oxidized by means of catalysts. The engine consists of three basic components that are locked into the cycle: a catalytic heater for a liquid working medium; a steam rotary- piston machine; and a condenser. The components can be placed at various locations in a vehicle. The engine has no need for a transmission, clutch, starting motor and muffler. Realization of this concept requires a substantial experimental production base, which is available in the USSR Ministry of General Machine Building.

In any event, this is the time to take action on the ecological developments the "defense side" can provide.

Finally, let us take note of yet another application of conversion: the possibility of employing special troops and their equipment to clean up areas struck by ecological disasters, contamination, and fire. Considering that there were 790 major accidents last year in our country alone, one can appreciate the magnitude of the economic and social impact of this measure.

There is quite a number of projects such as those listed above. However, to make them an actual reality, determine priorities, and coordinate the actions of many ministries and departments, we must have a coordinating organ. We suggest organizing under the aegis of the Main Administration for Scientific and Technical Progress and Ecological Normatives of the USSR Goskompriroda [State Committee for the Protection of Nature] an interdepartmental council dealing with the problem "Conversion for Ecology", to include specialists from the USSR Academy of Sciences, the GKNT [State Committee of the USSR Council of Ministers for Science and Technology], defense industries of the USSR Gosplan, etc. The primary concern of the council would be to formulate a state plan of the same name that could provide for effecting changes to ecologically clean technologies and collection of reliable and up-to-date information on the condition of the environment and environmental assistance.

With regard to funding for the ecological operations, it would be reasonable to organize an association. It could be set up most simply as a joint-stock company. In addition to the USSR Goskompriroda, it probably would be gladly joined by enterprises of the defense industries, transportation, industry, communications, USSR Minzdrav [Ministry of Health], and agricultural organizations. I believe that many foreign firms will also be interested in the association.

Finally, I cannot fail to mention the need for passing a special resolution to remove part of the military equipment from the destruction list so that it can be utilized for purposes of environmental protection. This resolution can be drafted within the framework of the pertinent international agreements.

Editors: The All-European Conference on Environmental Protection is presently being held in Sofia. Delegates are discussing specific problems dealing with environmental protection activities being carried out by countries participating in the Conference on Security and Cooperation in Europe. It is our hope that the suggestions advanced by V. Akovetskiy will attract the attention of this forum's participants.

Conversion at Tank Repair Plant

*90UM0114A Moscow KRASNAYA ZVEZDA in Russian
18 Nov 89 First Edition p 1*

[Article by Reserve Colonel M. Anisimov: "Contest for Goods"]

[Text] This year at a tank repair plant the collective, headed by Colonel G. Zadykhaylo, has been systematically converting part of its production capacity over to the output of nonmilitary goods. The design office at the enterprise has been using the design of the medium tanks to construct a number of original machines, including repair and evacuation machines, fire engines, and vehicles for the road, as well as tractors and bulldozers. Experimental models have been manufactured and have successfully passed testing.

The figures speak for themselves: This year the manufacture of goods for public consumption is expected to be worth 670,000 rubles, and next year—1.61 million rubles.

The transition to full economic accountability and self-financing opens up many opportunities to establish direct contacts and bilateral agreements with other manufacturers as well as with the customers. For example, the factory manufactured a consignment of ski lifts for a sum total of about 600,000 rubles. It also concluded agreements with the Arkhangelsk Oblast fishermen's consumer association and the Murmansk Oblast consumer association to manufacture 10-liter canisters, and with the Zaporozhye Oblast "Ukrtorgstroymaterialy" bureau to supply sets of sliding doors, winches, and oil tanks.

Direct contracts are being concluded with commercial outlets to manufacture gates for private garages, appliances that take wheels off cars, and sets of locksmith keys. It is also worth noting that the factory is considerably increasing the production of a number of products that are in wide popular demand, such as frames for windows and balconies, door assemblies, and various types of metalwork.

In connection with this the engineering staff, the factory and office workers, and the administration of the military enterprise still have the important task of setting up the appropriate production lines so that goods will be both inexpensive and of high quality. Only then will it interest consumers and be in proper demand. The party committee at the enterprise has announced a contest. Certificates and monetary prizes will be awarded for the best production models to be implemented.

Roundtable on Issues of Conversion, Economic Intensification

904A0082B Moscow *SOTSIALISTICHESKIY TRUD* in Russian No 11, Nov 89 pp 19-28

[Account of discussion prepared by V. Balan and V. Illarionov: "Conversion: The Possibilities"]

[Text] As already reported, the Mechanical Engineering (mashinovedeniya) Institute of the USSR Academy of Sciences, jointly with certain newspapers and journals, including *SOTSIALISTICHESKIY TRUD*, has held a roundtable discussion on the problems of conversion and

of the related intensification of the country's economy. We are publishing a detailed account of the meeting.

Fixing Reference Points

K. Frolov, member and vice president of the USSR Academy of Sciences, opened the roundtable discussion in which distinguished Soviet scientists and specialists from a number of defense sectors took part. He noted that one of the goals of conversion is to utilize the capacity of defense branches freed from the production of military equipment to speed up the solution of social problems. Our society is counting on that very large potential in negotiating the large-scale reorientation of the economy, its resolute change of direction toward man and his urgent concerns and needs. That is how the April (1989) Plenum of the CPSU Central Committee assessed the task of defense ministries in the perestroika of the national economy. Machinebuilders in the military complex are called upon to play a very significant role in this. It is no secret that there is a large gap between them and enterprises in the civilian sector. That gap has to be narrowed sharply in the very near future and the country's defensive potential placed at the service of the people.

The scientists and specialists discussed the problems and the possible strategies of conversion with interest, each from his own positions and in the context of the specific nature of that sphere in which he performs his activity, and they strove to fix clear reference points and priorities.

The Importance of the Problem

Recently, about 350 defense plants have begun to produce equipment and technical articles indispensable to industry and agriculture. This includes sets of machines for the food industry and the APK, refrigerators, washing machines, etc. Now approximately 40 percent of the output of enterprises in the defense complex is already destined for peaceful purposes. By 1991, this share will rise to 50 percent, and by 1995 it will rise to 60 percent. It is notable that certain plants under construction are being reoriented even in the design stage. More than 200 scientific institutes have already been converted to peaceful purposes.

The new thinking and the conception of defensive sufficiency have resulted in a fundamental reassessment of values. It has turned out that the most perfect products and technologies developed in the military field are the most devastating type of "nondisposable items" in an economic sense. In the years of our stagnation, the West recouped a sizable portion of outlays for R&D in the military sphere by releasing the most up-to-date technologies into the commercial stream. We on the other hand kept our "know-how" hidden. But even that is one side of the coin. A certain economic, organizational, and psychological syndrome generated by the administrative-command system was formed in which the bureaucracy blocked the flow of the most recent technologies

from defense over to other branches of industry. It should be said that by that time the supreme strategic goal—military parity—had already been achieved. But at what price? It was paid for with stagnation of practically the entire economy of the country. That is why prewar technology is still in operation in a number of branches, and in some places they are operating equipment from the beginning of the century. The result of this wasteful and shortsighted policy is that our fixed capital has become the most outdated of any highly developed country.

How is this trend to be turned around and the antiquated barriers broken down between the defense and civilian sectors of the economy? One of the ways is conversion of military production and R&D. Some of the participants in the discussion believe that a single market for technologies, capital, and manpower should be created on which the most advanced scientific and industrial potential of the state, having solved the problem of attaining military parity with the West, would in future work on the urgent problems of the country's economic security. Then the scientific-technical revolution that has been declared might be achieved in fact, not just as a slogan. The process of conversion stands at the very beginning of its development. Enterprises in the military sector have made the transition to cost accounting, and that will undoubtedly help in achieving what has been outlined.

But does this guarantee creation of the economic mechanism of conversion? Not fully by any means. The defense economy continues to be set apart. It does not have sufficient interest in becoming part of the overall system of the economy. Its privileged position is preferable. How is the personnel potential of the defense industry to be prompted to break through the inner barriers and pour into the mainstream of the economic mechanism? Some specialists believe that a powerful instrument of that kind might be found in a law on normative repayability of all appropriations for creation of new technologies in the military-industrial and space sectors. After all, today they are actually financed as needed—according to advance estimates. This is one of the reasons for the autarky that has gone so far. If under the law, say, about a fourth of all funds for innovations in the military industry were repayable, that would compel the relevant ministries to moderate their appetites a bit. And in the context of shrinking military expenditures, competition might possibly arise among contractors. Scientists and many practical specialists, as the round-table discussion showed, consider it quite legitimate to put the question in these terms.

What might be the ways of repaying the loan portion of appropriations? First of all—to sell new technology packages to cost-accounting customers in the civilian sectors of industry. Another way is to organize their own series manufacturing of highly profitable civilian products using those technologies. A third direction is to sell the "know-how" on the world market under licenses of the competent Soviet organizations.

The principle of partial repayability of credits for new technologies created by the military-industrial complex and the space industry might inject the commercial principle into our defense construction. There is no doubt that today it sounds unusual, but this approach would foreordain the economic urgency of conversion for the entire defense industry and would eliminate its isolation, which has lasted more than half a century. Should these and other possible proposals be realized, it surely would become possible to overcome more quickly the caste values of self-assertion which have been created in certain collectives of scientists and engineers, where without sufficient basis they cultivate unlimited secrecy and a certain aloofness from purely earthly matters, "What do I know about that?" This would deal a powerful blow to the snobbism of personnel in other "boxes."

The scientists and engineers working for defense must themselves be the main driving force behind perestroyka in the branches where high technologies are being created. In that sector, there must be a perestroyka of the pattern of thinking and behavior of millions of people and a reassessment of values. They need to be drawn fully into the life of society, which is setting its own goal of being opened, governed by law, and up-to-date. There is also good reason to think about what the sensible limits of glasnost should be and also the instruments for legislative oversight of the entire financial sphere of the military-industrial complex.

The Obviousness of the Gain

B. Zhukov, member of the academy, spoke in detail about the obviousness of the gain from conversion, about the prospects for its development. He dwelled specifically on the problems of the optimum use of gunpowder for peaceful purposes.

"The energy of gunpowder, however paradoxical it might sound, can be fully controlled," the scientist declared. "I will take effective use of rockets to control hail as an example. Outlays of 300,000-500,000 rubles for these purposes yield a benefit of 5 million rubles. Yet another paradox: special devices for extinguishing fires with high effectiveness have been created using gunpowder. The benefit from their use is extremely great. Whereas previously the devices were mainly used in defense-related activities, the need has now arisen to use them in the civilian branches of industry. Even a large fire can be localized very quickly with them. What an amount of resources can be saved in this way!"

Question: Are there examples of using gunpowder in other sectors of the economy?

B. Zhukov: There are cases of using MHD-generators as energy sources in the conduct of geological explorations, drilling, and other work in the Caspian Depression and on the Kola Peninsula. Mobile units of that kind could be used very widely.

Interest was aroused by what B. Zhukov had to say about the broad possibility of drilling wells in arid and desert regions with equipment that operates on the principle of a rocket engine. Gunpowder (explosion) can be used to form new materials extremely necessary to the economy, to achieve a considerable strengthening of metals, to cut successfully metal workpieces of awkward configurations, for welding, and so on.

All of this, concluded B. Zhukov, member of the academy, is not in the stage of a development project, hypothesis, or proposal, but in the plane of practical application. Thus, science, which previously worked mainly to meet the needs of defense, is ready even today to come to the aid of various sectors of the economy.

Recently, passions have welled up and disputes have flared up over whether it is necessary to spend such immense resources to develop space exploration. Doubts of this kind were expressed in the roundtable discussion as well. It is possible that some of these objections are warranted, but on the whole the arguments of those who oppose space programs if not altogether inconclusive, in any case they are not sufficiently documented with either scientific or economic arguments. As a matter of fact, the country is putting substantial resources into space exploration. But, as authoritative scientists and economists have concluded, those funds are niggardly compared to outlays in other sectors. Here is an example: automobile accidents cost us 7.5 billion rubles a year, 2-3-fold more than we spend on space exploration. We squander tens of billions of rubles per year because of inefficient transportation hauls and losses of agricultural products because we do not have roads. Millions of tons of metal are irrecoverably lost in the form of empty drums scattered all over the North, machines that have been written off in rural areas, old vessels dumped on the shores of rivers, and remainders of structural components and materials at construction sites. One could give quite a few examples of our mismanagement and unnecessary capital investments. Within that same Minvudkhkh. It should be said that in the United States expenditures for the space fields are greater by an order of magnitude! Nevertheless, Soviet rockets and space technology are recognized throughout the world.

What does space exploration have to offer? Well-known scientific advances. Space exploration has had a large role to play in television, communications, and the study of natural resources. There are quite a few other sectors of the economy in which substantial economic benefits are evident and may be felt in the future. Success in building spacecraft and stations and rocket systems would be impossible without special materials that have a combination of the most diverse characteristics. They include high-alloy heat-resistant steels, alloys based on aluminum and magnesium, highly refractory ceramics, high-frequency dielectrics, heat-shield materials, lubricants, adhesives, sealants, rubber, the thinnest metal-coated films, antifriction and anticorrosion coatings, and many other things. There is no field of materials science which has not received demands from rocket and space

engineering. Scientific-technical progress in the field of creation of new materials has touched almost all branches of industry, above all the chemical industry, the petrochemical industry, radioelectronics, the metallurgical industry, and light industry.

We must not forget that all these materials have been proven under extreme conditions—tested on space vehicles and rockets. In addition, a production base has been built for manufacturing the relevant products, and their enterprises are now supplying products to the economy. According to the estimates of specialists, over the period from the mid-seventies to the present time the benefit solely from applying new materials in peacetime branches and sectors has exceeded 2.5 billion rubles.

G. Lozino-Lozinskiy, chief designer, declared in the roundtable session that 80 new materials were created in developing the "Energiya"—"Buran" system. Certain metals are strong, light, and durable in operation. Quite a few nonmetallic materials have also been developed, materials which could have a substantial impact on development of a number of sectors of the economy. There are more than enough examples that prove this convincingly.

Fabrics containing lurex have recently become a fashionable material for dresses, ties, kerchiefs, and so on. But the fashion plates do not even guess that lurex was developed specifically for the space industry. Large bundles of mylar film (that is what lurex is made of) were used for the heat shield of spacecraft. Its effectiveness is more than two orders of magnitude greater than polystyrene foam. The area for use of the film as an insulating material in industry is immense. Velcro fasteners are a good thing on footwear: convenient and practical. How did they get into industry? From rocket and space engineering. At one time, light fasteners were needed to hold decorative panels in the crew's compartment, insulation bats, and the astronaut's safety belts. That is how the fiber "zipper" came to be created.

Not many people know how crucial a role elastic membranes play in spacecraft. How is a rocket engine to be started in a state of weightlessness, how is one to ensure that fuel goes into it, not gas, how is the gas-liquid medium to be separated? Elastic membranes are also needed for this purpose. Based on fluorinated copolymers, they possess a set of valuable properties.

Question: And where can such a material be used "in the civilian sector"?

G. Lozino-Lozinskiy: At a thickness of less than 1 mm, the material is sufficiently strong, elastic, break-resistant, airtight, chemically stable, does not lose its characteristics within a wide range of temperatures, and it is highly manufacturable. It can find wide application in the economy. It is sufficient to mention, for example, that drinking water kept in it does not go bad for several months. How useful such containers would be to geologists, builders, everyone who is now working in remote areas which sometimes are very hot and lack water! Nor

would these containers be bad for shipping toxic substances? Research has been done which shows that the material has a favorable effect on animal feed.

There are many joints of all kinds in rocket engineering—riveted, threaded, welded, and glued. There is a particularly acute problem with joining nonmetallic materials to metals. When "Energiya" was being built, a glue had to be found that would reliably fix the insulation to the oxygen and hydrogen tanks over an area of more than 1,000 m². This glue, which has no counterpart either in the Soviet Union or abroad, has been created, and it is protected by authors' certificates for invention. It can be used over a temperature range from + to -253° C. This material can glue various plastic foams to one another and to metal.

Question: Where can it be used aside from space?

G. Lozino-Lozinskiy: In an immense number of branches. It foams and hardens when it cools, and then it fills gaps up to 20 mm wide. It can be used for easy repairs of the thermal insulation of gas and petroleum pipelines and for caulking seams between panels in housing construction. It will be useful in light industry. Once we start using glues in making footwear, we will forget that soles ever came loose from shoes. There are many other nonmetallic materials one could mention that are in immense demand in the economy. They include heat-resistant adhesive tapes, a quick-setting sealant, carbon-based optical coatings, decorative and finishing materials that are hygienic and do not burn, shrink-wrap tubing for wire and cable, high-temperature thermal insulation, and so on.

A description of chemical absorbent materials was given in the round-table session. This is the pride of domestic industry. This material is fireproof, nontoxic, microbiologically stable, and catalytically active. By means of a chemical reaction, it is capable of absorbing water, oxides, nitrites, and carbon dioxide. It is a fibrous material similar to felt. One gram of it has a surface area of 20-30 m². It is irreplaceable for airtight crew spaces, where the maximum permissible concentration is lower by two or three orders of magnitude than for any other conditions. The material may be used in all sectors as a cleaner for special filters, as prophylactic elements, in apparatus for filtering blood, and in an "artificial kidney" as a deodorizer. In short, the boundaries for application are very broad. It is no accident that Soviet absorbent chemical materials have begun in recent years to be exported to other countries.

The scientists spoke about difficulties related to use of these wonderful materials in our industry, which could yield an immense economic benefit. Earlier, it was felt that all of this had to be secret. A highly debatable point of view, the specialists emphasized. Present-day structural analysis makes it possible to rapidly ascertain the "origin" of practically any material. Data become out-of-date in 3-4 years at the latest. The curtain over the sector is gradually being raised. The scientists believe

that catalogues of all these materials will soon appear with a description of properties and possible areas of application. In the context of cost accounting and the drive for the quality of a particular product, many enterprises will begin to purchase the technology for production of the newest materials, just like foreign firms do. And then the economic efficiency of the rocket-space industry and other branches of the military-industrial complex will be still higher.

The View From Within

What is the potential of conversion, what does the conversion of military production to a peaceful footing promise? Once again, the example of space can reveal the essence of the problem. This is what the participants in the roundtable discussion spoke about more than anything else. What is being done to demilitarize space? As we have learned from N.I. Ryzhkov's statement, space appropriations are distributed this way: to benefit the economy and science 1.7 billion rubles, for military purposes 3.9 billion, and the "Buran" space shuttle 1.3 billion rubles. The total is 6.9 billion rubles. According to the statement of V. Kuznetsov, first deputy chief of USSR Glavkosmos, in 1988 the income from use of space technology for peaceful purposes exceeded approximately 1.5-fold the expenditures to build and launch spacecraft and amounted to about 2 billion rubles. Let us ask the inhabitants of the North, Siberia, the Far East, Central Asia, and a number of other regions whether they need communications satellites? Thanks to them, television reaches 93 percent of the country's population. Inhabitants of remote regions do not feel isolated from the center of the country with respect to news, culture, art, and knowledge. According to figures of the USSR Ministry of Communications, satellite communication, radiobroadcasting, and television broadcasting yielded an economic benefit of 540 million rubles last year. Long-range and short-range weather forecasting, which is now entirely based on data obtained from the "Meteor" satellite system, yields an annual economic benefit of 500-700 million rubles.

And there are many other sectors realizing income from space exploration. This is evidence that it has already become profitable.

Attention was also turned during the roundtable discussion to the significance attributed in the advanced countries to the exploration and use of space itself. A number of countries have their own spacecraft, others are building scientific apparatus for space experiments. Finally, the overwhelming majority of countries is using the services of space communications and navigation systems, they are utilizing this kind of information for weather forecasts and for the exploration of natural resources. These facts are not without interest: budget appropriations for space in 1988 amounted to about \$1.1 billion in Japan and \$9 billion in the United States. One can hardly suspect such business people as the Japanese or Americans of a desire to "throw their money to the wind."

G. Lozino-Lozinskiy: Space developments can be used along a number of lines in the economy. Most important are new materials, methodologies, and methods of organizing up-to-date production. Beyond that, we should mention the use of spacecraft to create new materials, crystals, and pharmaceuticals, for rapid development of biotechnology. And finally, air-space technology has led to the accentuated development of basic research which in the future will have enormous impact on development of the leading sectors of the economy.

Question: Could you specifically name where those scientific and technical innovations achieved, for example, in carrying out the "Buran" program, are already being used?

G. Lozino-Lozinskiy: Of course, I can. A large order was recently filled for developing and manufacturing an automatic layout-and-cutting unit for light industry. This is very progressive. Automatic equipment makes it easy to take measurements and quickly obtain a finished suit. One person can make hundreds of suits in a short time. Thus, labor productivity increases many times over. And the quality will be better. Approximately the same kind of sophisticated system is being requested by the shoe manufacturers. And they will get it. In six branches, they are now developing programs for automation and the most refined organization of production using data prepared during performance of the "Buran" program. By the end of this FYP, we estimate these orders alone at more than 1 billion rubles.

Question: What other potential and possibilities are there?

G. Lozino-Lozinskiy: In the North, as is well-known, they have been experiencing great difficulties in operating equipment. Lubricants freeze and rubber does not stand up to the cold. In developing the "Buran," we prepared special technologies for manufacturing special rubber and lubricant. There is every reason for transportation people to borrow them. We are now negotiating with the highway transportation people. A second direction is growing crystals in space, manufacturing components for the manufacturing of the rarest pharmaceuticals. It is simply impossible to make them on earth. The price of up-to-date drugs is quite high—1 billion rubles per kilogram.

V. Kuznetsov, a member of the academy: An extremely promising direction is to grow crystals of the highest quality in space; there is an acute need for them in order to improve the efficiency of computers. One such little crystal that is 1.5 mm in size is estimated to be worth \$10,000. In combination with highly productive earth-based units, space technology makes it possible to solve the problem more effectively and produce several times more crystals than now. They have started out on the same road in the United States. Just imagine this situation: we sell abroad various expensive components, devices, and materials, and with the foreign exchange we

receive we can buy an immense amount of consumer goods and indeed food for that matter.

The most up-to-date devices and pieces of apparatus have been manufactured in our plants and are protected by licenses and authors' certificates. They are purchasing them abroad. For example, the artificial heart. It is just as good as the best foreign examples, and it may even exceed them with respect to certain characteristics. But, what do you think, the medical people prefer to buy such apparatus for foreign currencies, and they do not want to establish relations with military enterprises of their own country. Such a policy can hardly be called farsighted.

Question: What is the reason for that?

K. Frolov: There is no orderly information system, sometimes stereotypes of thinking have an effect. And the relevant market has to be created and competition organized in the defense sectors. Let the ministries and departments acquire products from the defense enterprises on a competitive basis and establish ties. And then many enterprises working for the armed forces are not aware of the demands and needs of plants in civilian sectors. Dilettantism cannot be tolerated here. Everything has to be converted to a commercial basis.

V. Kuznetsov: Of course, even the so-called secret sectors have many shortcomings inherent in ordinary enterprises. Even there they have not gotten away from planning on the basis of gross output, in volume terms. Now many of our plants do not have an objective motivation to reduce the product's production cost. Their overall indicators for gross volume are dropping off all at once, with all the consequences that ensue therefrom. The economic mechanism needs to be changed even here. Conversion is a complicated process. It also needs specialized research and studies, and it needs its own programs.

During the discussion, emphasis was placed not only on the complexity, but also the multilevel nature of the problem. The economics of disarmament was a concept debated in this connection. Reference was made to the opinion of O. Mamalyga, a Moscow designer who is the holder of the USSR State Prize. This defense industry specialist proposes not destroying the armament subject to reduction, but to turn it over to scientific institutions and enterprises in various ministries and departments. One of the logical and probably most effective ways of utilizing medium- and shorter-range missiles is their peaceful use for geophysical explorations. The existing rockets are used in combination with artificial earth satellites. There is a large interval of altitudes that still remains for regular scientific experiments. According to calculations of O. Mamalyga, our RMD-22 rocket, assuming certain additional work, could lift a payload of as much as 100 kg to an altitude of 500 km. The present MR-12 geophysical rocket lifts a payload not exceeding 50 kg to an altitude not exceeding 150 km.

There is no question that Soviet geophysicists have a limited need for powerful rockets, but these operations

could be performed on a commercial basis with other countries. This application of rockets would, of course, require consent of the USSR and the United States, which have concluded a treaty in this area, as well as strict international monitoring now that an atmosphere of trust is becoming stronger and stronger between the two great powers and other states, this kind of solution seems not only possible, but even quite logical.

Scientists and production people are proposing various solutions for intensification of the economy through conversion. For example, jointly with West Germany an enterprise has been organized in the USSR to convert the tractors designed to haul the launchers for SS-20 missiles to heavy self-propelled cranes. This is only one of the possible ways of utilizing the terrible military technology. Here is another example: a control drive—a kind of manipulator—was used on the RSMD missiles, which are to be destroyed. Something similar is in part used in civilian machinebuilding. But there is one essential difference. Whereas the defense unit weighs only about 50 kg, the civilian unit weighs nine times as much. Now, could it not have been possible in one state to make more optimum use of this innovation, which dropped out of the secret “ranks” many years ago? And ordinary weapons? After all, a gun carriage could be shipped off to be melted down, but at minimum cost it could be converted to a highway trailer, for which, incidentally, there is an acute shortage in the country. And there are dozens of such cases.

Our country's leadership has announced a unilateral reduction of tanks. It is sometimes said that it is not profitable to use them as tractors or other pieces of transportation equipment. That is possible, but everything should be thoroughly verified and calculated. And why not bring the specialists together? Why not establish a contest for the best experimental design to use particular assemblies or systems for civilian purposes? The trouble is that at present no one has an interest in the efficiency of the economics of disarmament. We will blow them up, crush them.... Even though usually it is more profitable not to crush them, but to take them for future use in peaceful sectors to improve the prosperity of the people.

V. Avduyevskiy, member of the academy: It is uncommonly difficult to change a system. People see “secrecy” in everything, a wall that alienates the military from the civilian sectors. In the United States, there are constant ties between the military-industrial complex and other sectors. American firms drop the secrecy of their defense technology in a year and pass it on for universal use. It obviously is costly to them to maintain the secrecy of innovations on which both material resources and intellectual potential have been expended. Only in certain cases by Pentagon order do the capitalists extend the secrecy, and there is always financial compensation. We are not even concerned about the people's benefit. We have just made everything secret! We have been fooling ourselves. We have been robbing ourselves. It goes to absurd lengths! For years, we have been selling products

to foreigners, yet holding them behind seven seals from our own specialists. Yet abroad the first thing the customers do with our prototype is to disassemble it to the last little screw and study it. And then everything they can they use for themselves. Yet our specialists in civilian branches usually wrack their brains inventing the wheel, when the defense people already have a finished bicycle. They do not even allow them access to the technical documentation! This is altogether unjustified.

V. Avduyevskiy called the attention of participants in the discussion to the fact that mental inertia hovers over everything in the defense sectors. In the course of conversion, as in any important undertaking, basic research has to be opened up. The new technologies must be used by everyone on a commercial basis. Everything must be integrated with the exception of special cases and situations. There cannot be two economies in the country—one military and the other civilian, and there cannot be an impenetrable wall between them. Conversion means above all a sharp rise in scientific-technical progress, an immense rise of labor productivity thanks to better organization of work and effective preparation of production. If a program is made to be comprehensive, many billions of additional rubles can be obtained. Otherwise, they are lost, and all that remains of conversion is the bare essence of the term.

The participants in the roundtable discussion noted that there have also been constructive changes in conduct of the policy of demilitarization, in establishing ties between defense and civilian sectors. For example, next year the aviation equipment manufactured by plants of USSR Minaviaprom for Aeroflot will increase by more than 20 percent. The new generation of airplanes such as the TU-204 and IL-96 will go to the passenger lines, and there will also be additions to the family of cargo planes and helicopters. Even this year the share of civilian products and consumer goods will represent 35.8 percent of the ministry's volume of production, and in 1990 it will be 41 percent. USSR Minaviaprom is rapidly retooling about 30 plants turned over to it from the former USSR Minlegpishchemash. As it increases deliveries of 1,800 different commodities—that is the number of product designations this sector is now producing for the domestic market—the ministry is also investing in improvement of these products the funds it has earned filling defense orders. So that here conversion is being developed and strengthened by the mechanism for redistribution of resources within the sector to the advantage of the civilian economy.

G. Lozino-Lozinskiy: The achievements of the space program represent immense spadework for civilian aviation. It might be said that this represents its future. On the basis of developments that exist today, it will be possible to build hypersonic all-weather aircraft capable of making safe flights between the most remote continents. Then there is the production of shuttles for civilian branches of industry, and so on.

P. Belyanin, corresponding member of the USSR Academy of Sciences and holder of the Lenin Prize: Broad prospects are undoubtedly opening up, but at this point sufficient use is not being made of the opportunities. It might be said that this is because shortcomings and "illnesses" inherent in our entire economy have had their effect in the defense sectors as well. And the faster we get away from this, the better the results we will achieve. I feel that in the context of resolute perestroika conversion must have a beneficial effect on all aspects of the life of the Soviet people. We need to sell more up-to-date aircraft abroad. They are needed by many civilian airlines in the world. With those funds, we could purchase the consumer goods, materials, and equipment we need in the shortest period of time.

Let us take another aspect of the problem. The manufacturing of various types of aircraft for the country's economy. In this respect, we have fallen disastrously behind the highly advanced countries. In the United States, for example, they produce 10,000-12,000 small airplanes a year. They are used in agriculture, by medical and rescue services, by geologists, and, of course, by the police. We have extremely few such planes. Is that not the reason why planes that are mostly half a century old are operating on local lines? We are gradually losing the achievements we had in aviation as a sport. The reason is clear: there is not the sufficient quantity of good airplanes for sport flying. The sport of gliding has in general been kept down in our country. I propose that the time has come to move on from talking about conversion to dealing with the large-scale problems. There is, I repeat, sufficient work already done for this purpose. It only needs to be sensibly distributed.

P. Belyanin made a number of specific proposals on carrying out conversion. They undoubtedly need thorough study and subsequent implementation. For example, drafting a program in the country for development of small-scale aviation.

The participants in the discussion spoke about the need to set priorities in carrying out conversion and directions for cooperation between military and civilian branches. Many proposals in this connection could be included in programs now being drafted. Distinguished scientists could provide the relative consultation concerning the important problems. What should attention be concentrated on in the opinion of participants in the round-table discussion?

A Program of Action?

A. Selikhov, corresponding member of the USSR Academy of Sciences: The problems of increasing the reliability and operating life of varied equipment used in the economy, be it the most sophisticated rolling mill or a hay-mowing machine, are very complicated. In the defense branches, they are using better equipment and improved technologies have been inaugurated. They have to be transferred to other ministries. This should be one of the directions in the conversion program, and it

promises great benefits. In the United States, for example, less and less metal is being used in making machines. Composition materials are being used for this. Often, they are more durable, lighter, and also more reliable in operation. We, on the other hand, are traveling the well-trodden paths. Our equipment is both heavy and not so good in operation. The military sectors have indeed a duty to provide the most vigorous help to the sectors of civilian production in eliminating this gap.

Question: In general outline, what is the strategy for solving the problem?

A. Selikhov made the proposal that comprehensive target programs be drafted for cooperation among diverse sectors.

K. Kolesnikov, member of the academy: A certain discrepancy has formed in domestic machinebuilding in recent decades. Rotary production lines, flexible production systems, and machine tools with numeric programmed control have been promoted to the fullest, and there has been little concern about their economic efficiency, about balance in the total stock of machines. At this point, we have approximately the same number of machine tools as the United States, Japan, and France and so what do we do? They are operated barbarically. It might be said that machines like this are not making machines, but are shooting out a stream of shavings. In our country, more than twice as much goes to scrap and shavings as in many countries.

In the opinion of K. Kolesnikov, billions of rubles should not be heedlessly spent on an extensive stock of machine tools. Instead, it would be advisable to be concerned about up-to-date foundry production, forging and pressing equipment, and new technologies in machinebuilding. Had due attention been paid to this in good time, workpieces could be produced with minimum tolerances. Such products do not require complicated machining. Progressive technologies for machining metals already exist in the defense sectors. So why not apply them to all sectors at an accelerated pace? The saving there could run not to the hundreds of millions, but to the billions of rubles. But for some reason we are still waiting, still asking for some kind of permission and instruction. It is difficult to develop conversion along that road: few are really interested in innovations, and at this point there is no economic mechanism to awaken interest. Cost accounting (*khozraschet*) is also sometimes excessively formalized in the defense sector. It ought to be directed toward reducing the product's production cost, but we observe the reverse. So that the military and civilian machinebuilders have "troubles," as they say, in common: the cost-plus mechanism is alive and well in both places. Consequently, it has to be broken more vigorously.

K. Kolesnikov expounded in summary form yet another program for unifying the sectors and for intensification of production as a whole. The point is that our country has undertaken a unilateral reduction of a large number

of tanks, it will be reducing artillery pieces as well, and fewer shells will be required. These products are manufactured at enterprises with a high level of technology. But as soon as the scale of production is reduced, the plants ought to be reconfigured to manufacture various workpieces for the machinebuilders. Such enterprises could operate on a cooperative basis. Finally, the potential that has been built up in the country is such that if the right orientation were given to its use, it is quite possible that intersector preparatory plants might begin to be set up. Then there would be no need for literally every enterprise to organize its own large and unprofitable service and repair operations. The economic benefit from this could be immense, and the main thing is that work would be organized in machinebuilding in keeping with world standards. In planning castings in millions of tons per year, it is also time to make the transition to other indicators that take into account the end result of the technological cycle of production of the product.

As the discussion demonstrated, conversion not only has broad prospects, but also a complicated group of problems and sometimes even contradictions. The fact that the defense sectors are gradually reorienting toward operation directly for the economy should be included among the favorable factors. Priorities have also changed accordingly. Activity for the world economy is becoming one of the principal tasks. Many sectors have taken on themselves responsibility for producing equipment for the agroindustrial sector, light industry, and the food industry, with a view to long-term operation along a number of lines of very great importance, such as turnkey construction of small-capacity canning shops and systems of equipment for the milling and hulling and mixed feed industries, motor blocks and motorized cultivators, equipment for the food service industry, production lines for garment and leather footwear enterprises, electric motors, and so on. Finally, specific tasks have been defined in augmenting the production of consumer goods proper and saturating the market with them. The growth rates of these goods will be 147 percent in the coming year for aircraft builders and 140 percent for shipbuilders. In rubles, this growth amounts to 1.3 million and more than 600 million, respectively.

By 1995, the defense branches of industry are to increase the output of up-to-date equipment to 17.5 billion rubles for enterprises in the food industry alone. Over that period, more than 3,000 equipment designations are to be put into series production. The USSR Ministry of General Machinebuilding can serve as an example of successful performance of urgent tasks. It has set up councils of chief specialists, developers of equipment, permanent ties have been established with top officials of the agroindustrial complex. The effort is being organized in a sound way in USSR Minsredmash, which is responsible for manufacturing milk processing equipment. It has set up five mechanical engineering and process engineering centers, a set of practical measures has been carried out to convert a number of shops and production operations to a peace-time footing. In USSR

Minaviaprom, a decision has been made to develop a new and up-to-date line for the production of canned fruits and vegetables. About 30 of the ministry's OKB's have been enlisted to develop the machines of which it will consist. As a consequence, two sets of experimental prototypes of the machines have been manufactured in a very short time. The first production line was installed recently, and their series production will begin next year. This is the remarkable result of a well-thought-out program of action.

It should be said that the participants in the roundtable discussion expressed an awareness that even the strong potential of the defense sectors is not able to work the "economic miracle" in which some people would like to believe. A difficult, lengthy, and persistent effort will be required. Even looking ahead to the very near future, for example, and this was emphasized by many scientists, it becomes obvious that conversion in and of itself is not a simple process either from the technical or the economic standpoint, much less in the context of the cost accounting. It takes not only time, but also sizable resources to change the configuration of production operations that have been running smoothly. It is no secret to anyone that in the defense industry, where highly qualified specialists and workers have been concentrated, the pay per hour of work is higher than in the civilian sector. Won't this and many other things be a brake on conversion?

Some of the speakers noted that even now extremely high prices that are not in line with the rise of the technical level and performance characteristics of equipment are being set on many types of series-produced equipment manufactured by the defense complex. A higher payment must, of course, be made for equipment that is at the present-day technical level and displays high productivity and reliability and for use in that equipment of progressive materials and microprocessors. But this problem must be solved in every specific case by the customer and the manufacturer, not as a formality, but sensibly, on the basis of mutual benefit. However, the specialists believe, USSR Goskomtsen must not stand to one side either. Every instrument must be used that contributes to successful performance of the task of the entire nation.

Appropriate changes must, of course, be made in economic standards as well as in connection with the radical changes in the production program of the defense sectors. The system of material and technical supply is also in need of perestroika. In this respect, USSR Gosplan and other central economic departments are expected to provide effective assistance to the enterprises of the defense complex. This is not merely a question of personnel. The transition from the most sophisticated product to an ordinary product also impinges painfully on people's interests and vanity. An outflow of skilled personnel has already begun in some places, and the cooperatives is one place where they are going. Possibilities for managing that process need to be found without delay. At this point, it is important first of all to solve

these problems: preserving stocks for material and technical supply in the defense sectors, settling wage issues, and defining the procedure—including deadlines and who is responsible—for converting plants to operation under the new “civilian” conditions, and so on. An equally important question is who will finance application of innovations “outside the configuration”—the customers, ministries, and departments, and to some extent local government authorities? Is it possible that a portion of the appropriations might be allocated by the USSR Academy of Sciences?

B. Ponomarev, member of the academy, expressed proposals in this connection that deserve the most fixed attention and thorough study. In his opinion, decisive importance should be given to state planning and management in this area. But that requires appropriate legislation, government decisions, and organization of nationwide authorities with the necessary powers. Here, B. Ponomarev feels, the following problems should be taken up first: compiling a program of alternative production operations, a list of peace-time products for military enterprises, an estimate of the necessary capital investments and changes in equipment and technology and in the organization of work, creation of new jobs, giving guarantees of income to workers and employees, and help in job placement and occupational retraining for all those in need of it. There is a need to work out a conception of conversion, above all of its social aspect, of the principles of alternative plans, and so on.

There evidently is also a need for a certain sequence in working out practical measures. One of them must be aimed at doing away with outdated bureaucratic organizations, excessive secrecy, at increasing the economic independence of enterprises within the limits of appropriations and resources allocated for conversion, and also independence developed through the use of internal potential. There should possibly be a study of the proposal expressed in the round-table discussion for creating an Association of the Soviet Community for Conversion (ASOK). The USSR Repository of Social Inventions, the USSR Academy of Sciences, and other interested organizations might become its founders and the drafters of its charter. Other questions were also discussed.

In summing up the results of the session, K. Frolov, member of the academy, emphasized that all the proposals will be thoroughly studied and that it is advisable to hold a number of subsequent sessions on this topic. Conversion programs for branches and sectors and the same kind of documents at the academy level should be drafted in the very near future.

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Channeling of Savings from Conversion to Environment Urged

90UM0112A Moscow IZVESTIYA in Russian
15 Nov 89 Morning Edition p 2

[Article by A. Yastrebov, USSR people's deputy; member, Committee for Problems of Ecology and Efficient Use of Natural Resources, in the column: “Problems and Deliberations”: “Reefs Endangering Conversion”: “Efficient Use of Peaceful Industrial Potential”]

[Text] It is difficult to imagine a person who would deny himself everything in order to accumulate sufficient money to purchase a car, after which he would abandon the expensive acquisition outside his house—with the keys in the ignition—to be used by anyone who should so desire. In my opinion, this is how we are starting off in our approach to conversion.

Plans call for a 5.4-percent reduction in defense production, which will allow a 34.7-percent increase in production of consumer goods by the defense complex. Figured against the manufacture of nonfood goods planned for 1990, this amounts to somewhat more than 14 percent. These figures show once more that the powerful potential of the defense industry can successfully apply its “surplus” to filling the people's needs. However, let us ask ourselves some questions: How are we investing the savings supplied by conversion? Is there something wrong in producing goods in defense sector enterprises? Have we done our best to devise a procedure for destroying weapons? Just how much money will be released by conversion, especially in the first phase?

Children's stores are full of toys made out of plastic and metal; impressive reproductions of tanks, aircraft, artillery guns, and other combat materiel, made to scale, are offered for sale. They are often made by manufacturers of real military equipment that have taken up peaceful production. And what else?

The approval of the GKNT [State Committee of the USSR Council of Ministers for Science and Technology] has been obtained to modify military prime movers for hauling timber. While it is true that these tractors can do this work in any kind of terrain, the use of these supervehicles for the next 80 to 100 years will result in cutting down all the forests. Spending is basically left to the discretion of the enterprises and ministries themselves. Since the state conversion program will be drawn up only in the last part of this year, we can consider 1990 to be lost, to all intents and purposes. In addition, the USSR Gosplan has no plans to set aside any funds to effect extraordinary changes in the environmental situation in the country. The Goskompriroda is merely in the preparation stage of submitting its suggestions to the Council of Ministers and Gosplan. However, the U.S. did make money available for this purpose, without dissipation of effectiveness, during the “warming” of the political climate that took place in the 1970s.

Goskompriroda recently held conferences to discuss the armaments conversion program section "Conversion and Ecology." While I agree with the goal pursued by the first phase of the work—seeking applications for products that have been in use—I cannot help but point out serious shortcomings. It is planned to structure the program section along the lines of "depending on the capabilities"—read "wishes"—of the ministries and departments. This is patently the wasteful and highly infamous principle of "proceeding on the basis of only what has been attained." Regarded as of paramount importance here are very large and expensive long-term projects.

Typical of the situation are the names indicative of how the working groups that deal with the program sections are chained to technology: "Instruments and Systems"; "Equipment and Technological Processes"; "Safety Systems." The point here is that it is the good of mankind that is at issue, not technology.

It seems to me that we should take a different approach. Instead of limiting ourselves to channeling monies, capacities, and other assets derived from conversion savings to ecology, we should also concentrate the finances for this part of the program in a single place ("green bank"), with the Goskompriroda as the major client. Projects resulting from decisions made to resolve ecological problems should proceed from the premise of minimum cost, shortest realization period, and maximum effectiveness. And it would be better to set up groups in accordance with the goals, such as "air," "earth and mineral resources," and "water." Or with types of effect: "physical," "chemical," and "biological."

Take the topic of chemical effects. We still do not have (or the Ministry of Defense may be hiding from us) an ecologically acceptable concept of destroying chemical weapons. It will be necessary to concentrate chemical weapons in one area (which of and by itself is not inexpensive); and expend funds to transform these items into "useful" chemical products, with due consideration to environmental factors. Chemical products that cannot be rendered harmless will require burial somewhere.

In addition, we must provide favorable tax rates for economically pure technologies and production processes, and also for facilities and the manufacture of environmental equipment.

In a word, we must devise an effective mechanism that will offer ministries and departments incentives to resolve ecological problems under conversion conditions.

Now we arrive at the last question: What will conversion cost? There still are many "dangerous reefs", such as the problem of assuring the integrity of equipment and technology, with the attendant need for additional production areas.

In short, the conversion program demands that we make it a major focus of attention, something which has been undeservedly lacking.

Military Technology, Equipment Destined for Market

904G0013A Moscow SOTSIALISTICHESKAYA
INDUSTRIYA in Russian 12 Dec 89 p 2

[Report by Ye. Chernova: "The Army and the Market"]

[Text] The first display-sale of military equipment was held in Moscow's Sokolniki Park in the first week of December. Machinery and instruments which are being removed as arms in connection with the conversion were displayed for sale by the missile forces.

Strictly speaking, military units transferred equipment that had been written off to the national economy previously as well. Even though there was some kind of efficient device that had been fixed, it was nothing special. Military equipment, and even individual equipment, is really being marketed right now. One more military fair has been opened at the VDNKh [Exhibition of Achievements of the National Economy] in Moscow.

This process is probably making every person in the country happy. But our newspaper has a particular reason for being proud. On 13 April this year, in the article "The Economics of Disarmament," O. Mamalyga, a Moscow designer and winner of the USSR State Prize, advanced this thesis for the first time in the Soviet press: we must not destroy the missiles, we must release them for the people. Since then, the concept of the economics of disarmament has been added to the armory, so to speak, of journalists and scientists.

But we do not intend to gratify our own pride, of course. For us, as for O. Mamalyga, who became one of the organizers of this display, the main point is that the idea has prevailed: the people's money and the people's labor invested in the Army should serve the national economy.

What has the display given us in this sense? Well, first of all, it has been a commercial success in itself. Most of the more than 1,000 samples that were displayed for sale were sold for a total of more than 2 million rubles. The customers are satisfied. The wealthiest one—as he was introduced to me—was Yu. Dolbanov, deputy chief of a department of the "Soyuztransenergo" PO [Production Association], who wrote an order for 300,000 rubles. He said that his association is delivering power engineering equipment to remote areas where there are no power stations. They usually ship such equipment by air, and less frequently by rail. But one time, Yu. Dolbanov said, they had to haul the power plant for a walking excavator. The work of specialists in this association would have been so much simpler if they had had the chassis of the "MAZ-547V," the most powerful means of transport which formerly carried the famous intermediate-range missiles. Now the power workers will receive this vehicle.

In general, the demand for different kinds of prime movers, power plants, and electrical equipment has been unexpectedly high. Industrial enterprises have been buying all this, but representatives of agroproms—Ukrainian and Latvian—have been buying as well. They were attracted primarily by the quality of the items—they had all gone through military acceptance. Prices at the display were floating; they were reduced (!), but they would also be raised depending on the demand.

Very often a customer would not find the commodity he needed. In that case, he was invited to place an order. After all, disarmament is a long-term process. And during the course of it the equipment needed for the customer will be released. Then the order will be filled. Here we have come to the important point. One of the display's organizers—the Commercial-Production Center of the "Vantkkhop" All-Union Association of Scientific and Technical Cooperative and Cost Accounting Organizations—undertook to be the intermediary between the Army and the national economy. As representatives of the Ministry of Defense advising the exhibition stated, the Army has always had commodities for sale to the national economy, and there is a huge quantity of these goods. But the military naturally have not been engaged in marketing, they have not studied the demand, and they have not known the consumer and his requirements. For this reason, the transfer of equipment has also been incidental and limited in nature, all in all.

Now there is an opportunity to put all this on a reliable market basis. The commercial center of the "Vantkkhop" has already begun studying the orders placed. Later it will obtain information in military units, and after finding out about the equipment being released, it will fill the orders. A true picture of the market for military equipment will appear this way.

"Vantkkhop" plans to hold such displays regularly. And not only in Moscow. Calls have been pouring into the center already from the Far East and other remote areas because the customers simply were unable to come. This means the exhibit should be sent to them and vast new markets should be opened up. There is also one more commercial plus which cannot be disregarded: 40 percent of the receipts from the machinery sold will go into the Ministry of Defense budget. This money will not be spent to produce new weapons, but to build housing for demobilized warrant officers and officers and for their other social needs.

An auction was held at the exhibition on Saturday. Interesting lots were offered at it—a "GAZ-66" [Gorkiy Automotive Plant vehicle] and electrical engineering equipment. The point is that this equipment has become scarce. Demand is too high. And this means that those who can afford it will be able to buy a vehicle. There are no funds or limits for you. Well, a market is a market.

The exhibition closed Sunday. But as we already know, the next one is not far off.

Proposed Reorganization of DOSAAF

90UM0149A Tallinn SOVETSKAYA ESTONIYA in
Russian 14 Nov 89 p 4

[Article by A.A. Reytam: "Grab Your Coat And Let's Go Home?"]

[Text] In a year the Republic's defense society will celebrate its 50th anniversary. This half-century anniversary does not promise a "storm of applause" or a complacent mood. Today DOSAAF members are at a crossroads: a persistent dialog is underway regarding ways of restructuring one of the broadest public organizations. As a member of the USSR DOSAAF commission on the preparation of proposals for the CPSU CC and the USSR Council of Ministers regarding the reworking of the documents which regulate the activities of this defense society, I briefly will acquaint you with what is already being implemented.

In the first place, all defense collectives of the Union Republics which are transferring to commercial activities are being given total independence. This means in practice and not just in words. The decentralization already underway of the All-Union Voluntary Society for the Promotion of the Army, Air Force and Navy, in my opinion, will also lead to a change in its structure. The new content will also change the name of the organization. It has been proposed to organize in our country the Society for the Promotion of Defense [Obshchestvo sodeystiya oborone (abbreviated—OSO USSR). Fourteen republic unions will be a part of it. In the Republics most proposals mentioned naming the organization "Estonian Defense-Sports Union" (EOSS). And the rayon (city) DOSAAF raykoms in the republic would be renamed as "EOSS rayon (city) branches." As such the existing DOSAAF raykoms (gorkoms) will fuse together with their sport-technical clubs into one organization operating on the principles of economic accountability.

Secondly, instead of a DOSAAF Central Committee of the [entire] country and a republican DOSAAF Central Committee, a Central Soviet (TsS) of the OSO USSR and, correspondingly, Central Soviets of the Union Republics and Soviets of the rayon (city) branches of the defense society will be elected.

We are often asked whether the planned change in nomenclature will become a mere exchange of labels?

No, that won't happen. The essence of the changes is to work out a "shielding" mechanism to block the appearance of "paper" primary organizations which for many years devoted themselves mainly to the collection of membership dues. While we are on the subject, the frequency and amount of payments in the future will be determined at general meetings of the collectives and the collected funds will remain at the disposal of the corresponding organizations. This can be entities other than the OSO primary organizations. OSO educational organizations, sport-technical clubs (STK), workshops or technical groups and hobby clubs, and public patriotic

unions can also be the foundation of the Society for the Promotion of Defense. Membership in the society can be both collective as well as individual. The main thing is for the organization to have its own, albeit small-scale, but concrete hobby which can occupy the free time of our young people and expose them to an interesting subject.

The following prioritized directions in the activities of the defense organizations have been proposed. These are the preparation of workers, especially young people, for highly productive labor and the defense of the socialist Fatherland; the preparation of personnel for the mass, technical trades; the organization of classes in technical and applied types of sports and amateur technical creative endeavors. Also included are the active collaboration and promotion of civil defense activities, the broadening and strengthening of cooperation with defense organizations of socialist countries and with athletic organizations of capitalist and developed countries. Just this year, for example, our DOSAAF members made numerous trips to Poland, Hungary, the GDR and also to Finland and Sweden. They also hosted delegations on reciprocal visits to their locations.

In conclusion I would like to express the hope that all defense and athletic collectives, the komsomol, and other public organizations which work with young people pay attention, first of all, to the patriotic and internationalist upbringing of the younger generation.

All kinds of things have taken place in history, an ebb and flow, dissension and warming of relations between peoples. But the courageous image of the soldier and defender of the Fatherland has never eroded or been subjected to anathema. The army is worthy of the deepest respect and attention if only for the fact that it is always the first to respond to any kind of trouble, be it an earthquake or anything else... It is difficult to imagine any sensible person who would flippantly throw away his umbrella just because the skies are clear today and the international situation has improved. But it is too early to beat swords into plowshares if only because we need both border guards and air defense troops just to defend the 67,000 kilometers of our national border.

One has to be completely objective in viewing perestroika both in the army and in DOSAAF, the reserve and assistant of the Armed Forces. After all, let's recall how talk about perestroika in the army began. They opened the abscess of the institutionalized abuse of raw recruits by second year "dedy" and began a business-like and constructive dialog about glasnost, about the democratization of procedures in the army and navy, but they fell into the well-known sin of demagoguery about the worthlessness of the Armed Forces, about the fact that the need for a defense of the Homeland allegedly no longer existed. We are replacing a rejection of war with a rejection of the importance of military service. At times we propose to wage the struggle for peace through an "anti-military patriotic upbringing." And these kinds of examples do exist. A bad example is contagious. Even

KVN [Good-humored and Resourceful People Club] (Central Television, 11 Nov 1989) did not withstand the temptation to "take a swing" at the military.

The youth whom we prepare for military service before he joins the army receives knowledge and skills in his chosen profession in a DOSAAF school. We receive quite a few positive reviews from military units but problems do exist. It is no less important to develop the character traits of a patriot, internationalist and soldier in the future defender. Because the army, where the healthiest forces of the nation end up, according to the legacy of Suvorov, must be the nation's school. This can

only be achieved through the combined efforts of all. Unfortunately, many of the contacts with labor unions and the Komsomol have been disrupted and, apparently, they will have to be reestablished again taking into consideration the new circumstances of our complicated reality.

* * *

A few days ago Colonel Reyntam was promoted to Major-General. The editorial staff of "Soviet Estoniya" congratulates Arne Arvedovich on obtaining this high rank.

Mail Summary: Military Training in Higher Education

90UM0163A Moscow KRASNAYA ZVEZDA in Russian
8 Dec 89 First Edition p 4

[Interview: "The Student and the Department of Military Science"]

[Text] As the mail to the editorial board of KRASNAYA ZVEZDA proves, interest in the problems discussed at the All-Union Student Forum has not abated. Among the questions most frequently encountered are those which involve in one fashion or another the organization of military training in the VUZ [institution of higher education]. The editorial board asked workers at the Main Directorate for Military Educational Institutions of the USSR Ministry of Defense to comment on the student mail.

[KRASNAYA ZVEZDA] Can those students who have performed active military service in the Army and Navy now be exempted from studies in the department of military science?

[Main Directorate] According to a resolution adopted by the USSR Ministry of Defense and the USSR State Committee for Public Education, the rectors at the VUZ's have the right to exempt from military training those students who have performed active military duty for not less than 1 year and were discharged into the reserves in 1987-1989. This rule does not apply to those students discharged from the Armed Forces in 1985-1986, that is, before the passage of the resolution indicated above. And where students in the category have undergone more than half of the program of military training, they are obligated to finish the course of instruction and pass the final examinations.

[KRASNAYA ZVEZDA] It is said that the quality of instruction in many of the departments of military science is beneath criticism. What measures are being undertaken to improve the level of special training and training in methodology for the teachers?

[Main Directorate] We can hardly agree with such a severe opinion. Experienced officers, ones who have proven themselves in line units and have higher military or specialized military education, are selected for the departments of military science. Appointments are submitted to the rectors of the educational institutions for approval.

As for professional improvement of military teachers, a system of commander training is provided. The officer-teachers receive commander training through periodic courses of instruction on military units and combined units. They are also sent to academic, higher, and specialized officer courses and complete periods of duty in line units, on ships, and in military educational institutions. The officer-teachers also participate in exercises.

Periodic performance evaluations also further the professional growth of military teachers.

[KRASNAYA ZVEZDA] Could the Ministry of Defense add a bonus to the stipends of those students successfully enrolled in departments of military science?

[Main Directorate] According to Ministry of Defense estimates, there is no provision for material incentives for the students. But the rectors are permitted to pay such a bonus within the bounds of a stipend fund established for the VUZ.

[KRASNAYA ZVEZDA] When will there be an opportunity to receive driver's licenses in the departments of military science?

[Main Directorate] The opportunity is already there. There are provisions to issue automobile driver's licenses at those departments of military science that offer training to reserve officers for motor transport forces.

The question of introducing corresponding courses of study at some other departments of military science is being examined, particularly at those that offer training to specialists for motorized rifle troops.

[KRASNAYA ZVEZDA] Will the principle of voluntary attendance be introduced at the department of military science?

[Main Directorate] No, it will not. Military training is required education for students and is included in the curriculum at VUZ's under the heading of an independent specialized discipline.

[KRASNAYA ZVEZDA] Can the Ministry of Defense stop calling up the students of the VUZ's and specialized secondary educational institutions for military training courses during the school semester and session?

[Main Directorate] As a rule it is not done that way. Training courses at military units are organized for students after the completion of a course of military training in the educational institution, which coincides with the end of the regular semester. They are conducted after the last course of study in the vacation term for a period that is determined in coordination with the USSR State Committee for Public Education.

[KRASNAYA ZVEZDA] Should the principle of voluntary attendance at general military training be introduced for those students at the medical institutes who have served in the Army, which would leave medical training the only compulsory military course?

[Main Directorate] Here the principle of voluntary attendance is unacceptable. The problem is that the demands which are made of the officer cadres educated at the medical VUZ's are incomparably greater than those which are made of compulsory service troops. The general military training of medical students who have served their time in the Army is simply insufficient for

the conferment of the title of reserve officer. As a result, such students also need comprehensive training in the department of military science, which will permit them to fulfill their military obligations in an officer's billet in time of need.

[KRASNAYA ZVEZDA] Will the students who are studying in the departments of military science be provided with military clothing?

[Main Directorate] There is provision for special clothing for the students' training sessions on military equipment and arms and in the field. The educational institutions purchase it through the commercial system at the expense of the funds and resources of the ministries and bureaus of the USSR and the union republics to which they are subordinate. The Regulations on Departments of Military Science determine the norms for purchasing special clothing and the periods for its use.

**Commander, Airborne Forces Observations On
US 82D Airborne**

*90UM0064A Moscow KRASNAYA ZVEZDA in Russian
p 5*

[Interview with Col Gen V. A. Achalov, conducted by Lt Col A. Dokuchayev: "Alongside the Commandos"]

[Text] It was quite recently that the Americans received a Soviet military delegation headed by the USSR Defense Minister, General of the Army D.T. Yazov. After taking off on "C-130" transports, the delegation landed at an airfield that an hour earlier had been "stormed" by airborne troops.

Among those who "stormed" the important installation with the American assault was Col Gen Vladislav Alekseyevich Achalov, commanding general of airborne troops.

Today's interview is with him.

"Is the American soldier tough?" we ask the commanding general. "Yes, I watched him perform in an airborne assault landing and an attack on the sea coast. Of course it's hard to make an exhaustive evaluation from these episodes, but nevertheless...

The airborne assault is at Pope Air Force Base, in the state of North Carolina. It is the most interesting thing for me, understandably. The airborne troops capture the "opponent's" airfield so that they can then receive equipment at it. We take off on 'C-130s'. Around me are men who have befriended the sky and parachutes, successors to the famous cowboys. I observe them. The soldiers and officers are trim, smart, well- equipped...

All at once loud shouts ring out. That's how the commandos give the jump order. Very loud commands, and their repetition is the tradition and the procedure, they say, for motivating the men. That may be. Our process of jumping is more calm. A group of 7-8 men go first, the team to capture the installation. I note to myself: the Americans leave the aircraft at an altitude of 3,000 meters. A rare altitude for a jump. To jump when it's almost three kilometers to the ground is fine if the parachutists are masters... Can our boys do this? Yes, they can.

The main assault group is waiting. It heads for the ground, led by the commander of the 18th Airborne Corps, Lt. Gen. Carl Steiner, from an altitude of 200-300 meters.

Next to me is a dark-skinned soldier. He looks to be about twenty-five. I ask about his training. He has been in the service seven years, and has made 70 jumps (the norm for the Americans is one jump a month). How does he feel before leaving the aircraft? I take the soldier's hand, check his pulse. 120 beats per minute. He's excited, and this is a professional. But who is indifferent to jumping? Before you, the abyss... Clearly these professionals are no different from our airborne men."

"Vladislav Alekseyevich, were they really the best they had with you in the "C-130", perhaps..."

"No, not at all. We were observing the actions of the personnel of the 82nd Airborne Division. It is the foundation of the 18th Corps, its pick troops are highly rated in the rapid deployment forces. Incidentally, its pedigree goes back to 1917, like many of our formations. It took part in battles of the First World War in Europe. In May 1943 it was sent to North Africa. Another six campaigns in the Second World War. The division's units fought in Vietnam, and stormed Grenada. So it was natural that they were the ones to demonstrate their proficiency to us.

It was 200-300 meters to the ground. Our troops jump from 600-800 meters, but they can do this at aircraft speeds of 320-350 kilometers an hour, and the Americans at speeds of 100 kilometers an hour less. I open up for myself—my hosts have automatic parachute opening. They open up right beneath the wing of the aircraft. The altitude "obliges" them to do this.

Landing. Now we observe the Americans from the ground. The sky of North Carolina has blossomed with parachute canopies. Around a thousand men have jumped... From the aircraft, with which we have already become well acquainted, they leave in two streams. I remark that we jump from the Il-76 in two to four streams.

The airborne troops free themselves from the parachute and their gear literally within seconds. You can imagine how important that is in battle. The legs touch the ground and immediately you use your weapons."

"But our boys..."

"You want to say, they fire while still in the air. They do indeed, aimed fire. But only the best of the best, the masters of their profession. Those who have served for two years and never missed a jump. The young soldier isn't capable of it. Not everyone can free himself of the parachute system in the air, here again you need proficiency... The American harness is more efficient, it seems to me.

The equipment heads downward. It hits the ground noisily, with a heavy crash. You can see from far away: two of the armored vehicles have lost their treads, which fly off to the side, and some engineer vehicles also have damage, major, as they say.

The battle heats up at once. Clearly the 82nd Airborne Troops have sound skills. Even before the trip to the U.S. I had heard a lot about how the Americans are actively involved in sports, especially in the Army. That's the case. Hundreds running around the Pentagon, at the military bases... This persistence could also be seen on the battlefield. The troops performed aggressively, energetically. Their faces were painted the color of the terrain, and this probably lent them greater resolve."

"Can you imagine this picture? You are inspecting the 82nd Division. What mark would you give?"

"If we evaluate by our criteria, the strictest, of course, then for the jump, satisfactory. However this is a hypothetical mark, it is based on observation, for I have no objective data."

"Vladislav Alekseyevich, I have compared your biography with that of Carl Steiner, the commander of the 18th Airborne Corps. They have much in common. Steiner graduated from officer's courses, infantry school, the command-staff college of the ground forces, Army War College. You were educated at the Kazan' Higher Tank Command School, the Military Academy of Armored Troops, and the Military Academy of the General Staff. Each of you has commanded airborne troops for a comparatively short time. Of course, you are ten years younger than the American general. Given that you have much in common in your service, do you have the same questions of one another?"

"That's an easy guess. What can airborne soldiers talk about when they meet? About airborne assault actions, the experience of combat work..."

"About equipment."

"And about equipment too. Incidentally, we were shown the weapons of the airborne division and told their tactical and performance characteristics."

If you compare them with ours, I believe some of ours are better, for instance our airborne combat vehicles, which can be delivered with parachute systems and are capable of negotiating water obstacles. And some of the American equipment is more effective.

But a short interjection here. It seemed to me that the Americans spoke of their equipment with a certain amount of self-promotion. When General of the Army D. T. Yazov was shown a subunit of Marines, all he heard was: 'Before you, General, is the best squad of the U.S. Armed Forces...' 'Before you General is the best squad commander...', 'Before you, General, is the best corporal.'

This of course is pride in one's troops. Let us return to the airborne troops. They believe their arm of service is the elite of the armed forces. The command of the 18th Corps invited me to the museum. To say I liked the museum is to put it mildly... For the soldiers and officers the museum is a shrine. An episode at Fort Bragg left a strong impression... A soldiers' chorus struck up the song of the 82nd Airborne Division, and all those present at the celebration stood and came to attention. And this was a song, not the national anthem. Each division in the U.S. has its own motto. The motto of the 82nd Airborne is 'All-American'. That means a lot. They are saying, we are responsible for the whole country, but also are filled with love for the whole country. How could there not be

a patriotic spirit in the subunits? We noted: the popularization of the armed forces is a state task there, a very important task. But over here?

Unfortunately, in a number of mass media you rarely can read or hear of the traditions of a particular arm. For example, where are there materials on the romance of service of our airborne infantry?

"Vladislav Alekseyevich, do you have other impressions?"

"As was already noted in the press, they offered us a very broad program to acquaint us with their armed forces. I already spoke about the airborne troops. We also visited a training drill of the Marines at Camp Pendleton. Here again our contact was close. Delegation members were brought by helicopter to the general-purpose ship 'Bel-leau Wood'. An amphibious assault was launched from it on amphibious ships. They practiced the operation. Then a Marine subunit demonstrated fire from subunit weapons."

The art of advanced aerobatics was demonstrated to us by a squadron of "Thunder Birds" in F-16 aircraft.

However I did not satisfy my professional interest. Not because the Americans showed us little; I simply value acquaintance with the process of training higher, and not only with its concluding state, which is the exercise, for example.

Here those same airborne troops set up a real cannonade. However they fired on targets that did not rise and fall. It was impossible to tell if it was effective or not. What sound effects. It would have been interesting to see a drill close up, where the soldiers were firing for accuracy, for instance. Against what targets do they fire in this case? What training methods exist for those who fire poorly? Questions that are far from idle for the professional.

Why do I want specificity? Not in order to learn data that is kept secret, but to expand my horizons. Over here, voices are being raised now for transition to the principles of voluntary manning of our army. As an argument, they use the development of the Armed Forces in the U.S. I admit, I saw few serious indications of an increase in combat readiness. Perhaps, everything valuable remained outside the picture, as they say."

"So it did not look like a professional army?"

"That's not the point. An army on advertising posters is one thing. But an army in the real world is a military collective, obviously, as in all countries, with its strong points and its problems, different people..."

On the trip we got to know one another a little better. Such mutual visits allow us to better understand the other side. The main thing here is not to stop.

Now the Americans have offered many airborne subunits for demonstration. But here we began the rapprochement earlier. No, I do not have in mind the

contacts that took place between our service members and the Americans within the framework of a visit by the former Defense Secretary F. Carlucci to the Soviet Union."

The general turned aside for a moment and asked that a document be brought to him.

"Take a look at this—a letter from an American soldier named Struther to the command of our airborne troops. A soldier from the 51st Infantry Regiment, 7th Army Corps (serving in Western Europe), he asked for permission to make a parachute jump with our soldiers. We consented. Now our request is in the apparatus of the USSR Defense Ministry. I think Struther will soon be the guest of cadets at the Ryazan Higher Airborne School, and will get a taste of the Russian sky. Why shouldn't we exchange groups of soldiers? For instance, our platoon could jump jointly with Americans, and an American one in turn could jump in a single stream with our soldiers and officers.

What would that do? That same Struther will hardly view as enemies those who help him prepare for jumps in Ryazan, and the cadets in turn will "find the man" in the American soldier. And if we were to have more such contacts? Peoples' diplomacy will start to operate in the Army environment too.

But of course we will not diverge from today's still-complex, harsh reality. And, I believe, commentary would be superfluous here for us as military people."

Motives Behind S. Korea's Choice of F-16

*90UM0121A Moscow KRASNAYA ZVEZDA in Russian
21 Nov 89 First Edition p 3*

[Article by A. Golts: "Fighting Falcons"]

[Text] According to Seoul newspapers, the "Fighting Falcon" has again carried the day against the "Hornet." This news has absolutely nothing to do with zoology, but instead has to do with military affairs. Seoul showed its preference for the American F-16 Fighting Falcon fighter-bomber over the F-18A Hornet in selecting the former as its primary Air Force combat airplane. This will result in an enormous contract with a cost of approximately three billion dollars. The military headquarters of the two countries have reached preliminary agreement that South Korea will purchase 12 already manufactured airplanes that are being stored in warehouses in the U.S. and will assemble the next 36 from parts shipped from abroad. Another 72 airplanes will then be manufactured right in South Korean factories.

This contract is to be completed by the late 1990's. And according to the authoritative military journal JANES DEFENSE WEEKLY, this may not be limited to only 120 combat airplanes. It is possible that Seoul may have an additional order for two hundred fighter-bombers. Why is South Korea making such a powerful addition to its Air Force, one that can in no way be considered weak?

According to that same journal, Seoul is doing this to prepare for the possibility of U.S. forces being withdrawn from the southern part of the peninsula in the future. JANES DEFENSE WEEKLY feels that these fighter-bombers will carry out the same missions that are now assigned to two American F-16 squadrons.

It is difficult to agree with this hypothesis for more than just the fact that the South Korean leadership has decisively come out for retaining a U.S. military presence. Even in developing its own long-range plans in the military arena, Seoul bases them on retaining this presence for an indefinitely long time.

As a representative of South Korean ruling circles reported, the decision to purchase F-16's was made primarily because the Americans have deployed similar combat airplanes in South Korea. This will facilitate carrying out joint combat missions.

Facts show that there are other plans in the area of arms acquisitions that are pursuing this same goal, that of not replacing, but of supplementing American Armed Forces. The South Korean leadership's portfolio of military purchase orders is extensive. They are buying combat helicopters and missile technology from various Western countries and have ordered submarines from the FRG. At the same time they are making a decisive effort to develop their own military industry.

Just as in the past, South Korea is combining its ambitious plans for expanding its military potential with declarations about the "threat from the North." This is despite the fact that the KNDR [Korean National Democratic Republic] is constantly proposing realistic peace initiatives aimed at detente on the Korean Peninsula. It was recently reported that the KNDR and South Korea had reached an agreement to hold military and political summit negotiations.

The KNDR delegation is persistently trying to include in those negotiations the issue of eliminating military and political confrontation on the Korean Peninsula. Whether Seoul wants to or not, it will have to make a choice on this issue, one that is key to the people of Korea. And this choice is even more important than the choice between two American combat airplanes. New military contracts with the U.S. could become yet another obstacle on the road to a positive decision.

New U. S. Cruise Missile AGM 129A

*90UM0159A Moscow KRASNAYA ZVEZDA in Russian
6 Dec 89 First Edition p 3*

[Unattributed report: "New Cruise Missile"]

[Text] According to the foreign press, the U.S. Air Force received over 1,700 AGM-86B air-launched cruise missiles between 1982 and 1986, having a maximum range of 2,600 km, a 30-m firing accuracy and a 200-kiloton nuclear warhead. Their main carriers are the B-52H, B-52G and B1-B strategic bombers. However, as early as

1983, the General Dynamics firm started to design an advanced air launched cruise missile which, compared to the AGM-86B, should have a higher firing accuracy and lower radar and thermal profiles. It was to possess the following characteristics: a launch weight of around 1,250 kg; a body length, height and width of 6, 0.45 and 0.86 m respectively; the wing span of 1.75 m, a flight range of over 3,000 km, a nuclear warhead equivalent to 200 kilotons of the TNT.

It was planned initially for the new missile, which was called the AGM-129A, to be adopted by 1989, but following the failures of its first tests, it was reportedly put off until 1992. JANE'S DEFENSE WEEKLY reports that a number of design defects have been detected in the missile again this year, as a result of which only 50 percent of the launches, mostly from the B-52H bomber (see photo) have been successful.

British Test LS-90 Self-Propelled Howitzer

90UM0159B Moscow KRASNAYA ZVEZDA in Russian 6 Dec 89 First Edition p 3

[Unattributed report: "Self-Propelled Howitzer Undergoes Tests"]

[Text] According to the Defense magazine, the British ground forces has adopted a 155-mm self-propelled

howitzer, LS-90 made by the British company VSEL. Its tactical-technical specifications are as follows: a 5-man crew, combat weight of 42 tons, gun barrel length of 39 caliber; the initial muzzle velocity of 827 m/sec; maximum range of fire for a regular projectile of 24.7 km; an rocket-assisted projectile with a range of 30 km; rate of fire of 6 rounds per minute; portable ammunition stock of 48 shots.

The howitzer is mounted on a special caterpillar chassis with the front-end engine and transmission compartment. Unlike most of the self-propelled guns with aluminum armor, its body and turret are made of steel armor plates. According to British experts, the use of steel armor, whose welding technology is simpler than that of the aluminum one, will make repairs in the field much easier. The turret bustle an electrically-driven 31-shot magazine, which allows it to fire the first three shots within 10 seconds.

The LS-90 has an automatic gun laying system whose inertial unit includes ring laser gyros. A auxiliary motor which must provide power to all systems in combat without starting up the main diesel engine.

Under the 300 million pound sterling contract, VSEL will supply 179 such howitzers to the British Army starting from the first quarter of 1991, to replace the 105-mm self-propelled "Abbot" guns adopted in 1963.

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